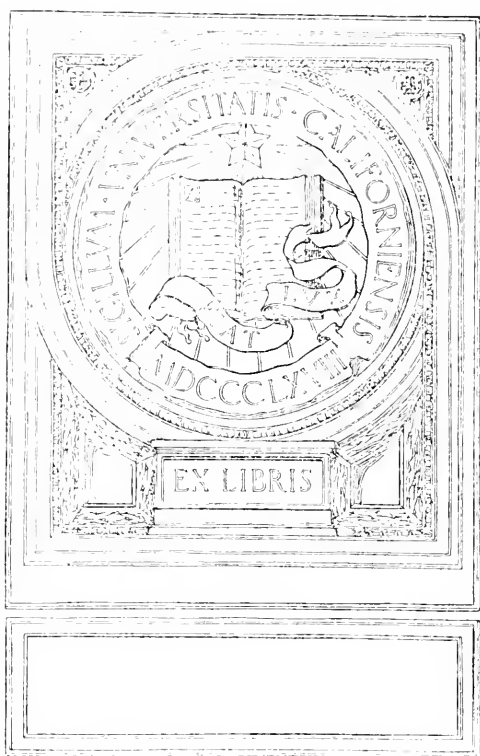
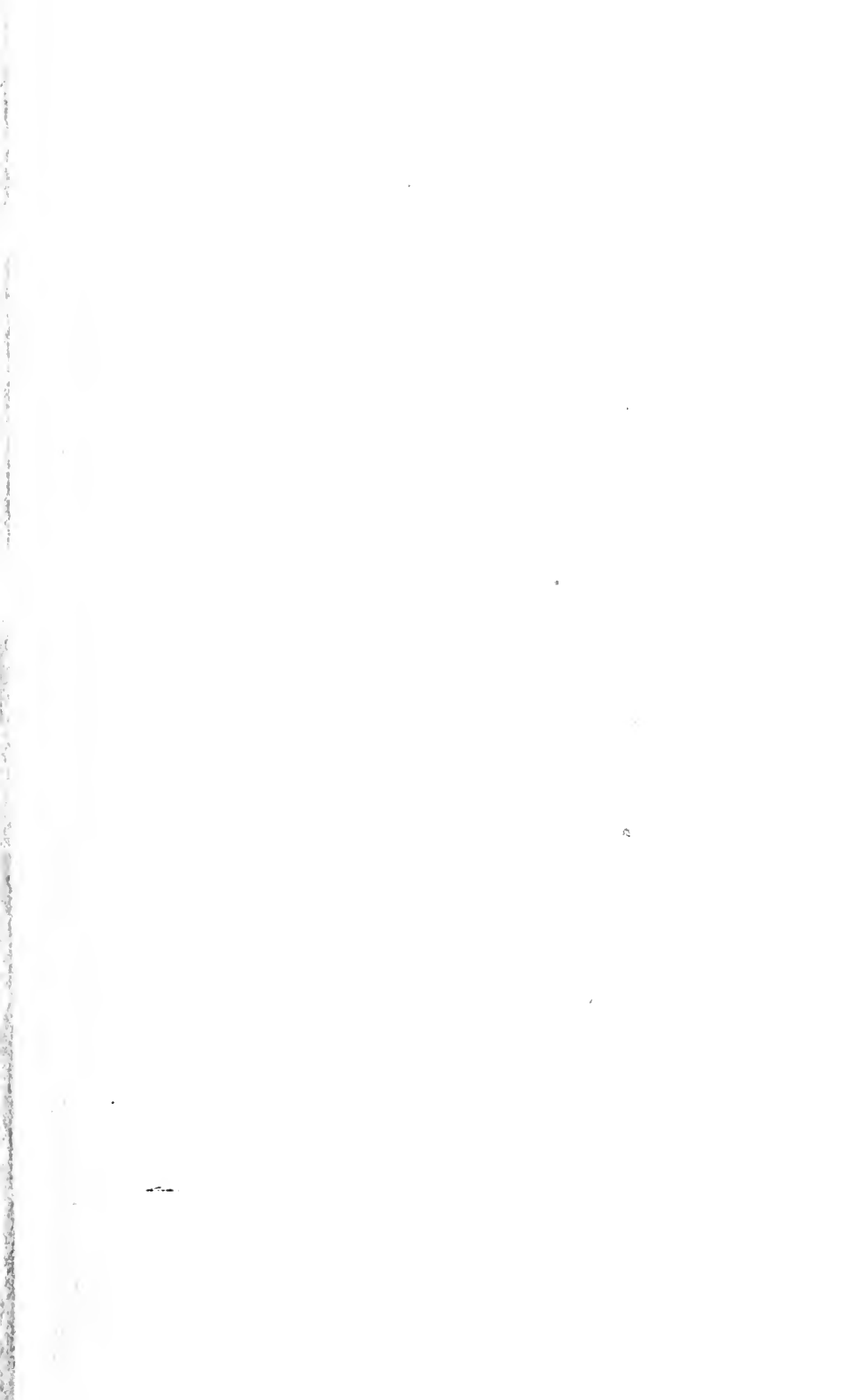


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To the Children

Who have been robbed of their birth-
right, by the trivialities, the greed and
avarice of our civilization, this book
is affectionately dedicated



Courtesy of Miss Bessie D. Stoddart.

**"NATURE STUDY"
AROUND THE FISH POND
Los Angeles**

"Important as it is to direct the industries of the world, it is not so important as to wisely direct the leisure (the relaxation) of the world."—*George Eliot.*

PLAYGROUND TECHNIQUE

AND

PLAYCRAFT

VOLUME ONE

A Popular Text-book of Playground Philosophy, Architecture,
Construction and Equipment

Edited by

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PREFACE

IT has fallen to our lot to act as guide for the infant steps of several playground movements. In the early days many problems confronted the playground worker. The woods were full of philosophies but the practical application had to be worked out by hard knocks. During the past years, we have been the recipients of many of these; making many mistakes, we have acquired some practical knowledge and perhaps chanced upon the proper solution of some problems.

In presenting this book, we hope that as a result some may be spared many of the commonest mistakes and may profit by the things which have been found essential, when judged by our own experience and the experience of other pioneer workers in the play movement, whose work has assisted in the preparation of this book.

The attempt will be made in this series to correlate the work of the various playground interests throughout the country. The salient features in a number of typical playground movements will be described. As the ground to be covered is so extensive, only those which have made unusual, unique and historical contributions to playground knowledge can be given place in the discussion.

Necessarily this series could be prepared only through the combined experience and coöperation of the many workers who have contributed to the play movement.

The editors extend thanks and acknowledgment of assistance to these workers for permission to use extracts from their writings and to the members of the Advisory Committee for suggestions, assistance and special articles.

To the various magazines and publishers, who have given permission for reprinting the articles so credited in the book.

To Dr. William W. Hastings for reading manuscript and making suggestions thereon.

To Olmsted Bros., Jolin Bacon Hutchings, Hunt, Eager and Burns, and others for plans of playgrounds and buildings which are incorporated in the book.

To Lafon Allen, President of the Recreation League, and John Bacon Hutchings for furnishing photographs of Louisville playgrounds.

To Charles Mulford Robinson and the Children's Playground League for photographs of Rochester playgrounds.

To Miss Bessie D. Stoddart and C. B. Raitt for photographs, plans, descriptions and estimates of Los Angeles playgrounds.

To the Massachusetts Civic League, Joseph Lee and Mr. Hartman, Secretary, for photographs.

To the officers and committees of The Playground Association of America and the American Civic Association for permission to reprint extracts from publications, committee reports and other assistance.

To William A. Stecher for photographs of Philadelphia playgrounds and other assistance.

To Dr. Chas. A. Eastman for permission to reprint parts of "Indian Boyhood."

To E. B. De Groot for plans and matter relating to Chicago playgrounds.

To Mrs. Charles F. Weller, Madeline McDowell Breckenridge, Dr. Henry S. Curtis, Harry W. Leland and Myron T. Scudder for preparing special articles.

To all of those who have given permission to reprint articles and extracts further acknowledgment of which is made in connection with the articles printed.

On account of the size of the field to be covered we have been obliged to produce this work in two volumes. Volume one will treat of the general philosophy of play and the technique of playground construction, beautification and equipment.

It will also discuss the philosophy and technique of constructive play, or the relation of the child through play to the world of nature and material things. It introduces "Playcraft," the Educational Method of Building Playgrounds.

This system of manual training, in which the children make the things with which they play, will be further developed in a second volume, especially with relation to its practical application to minor play materials. Volume two will also contain a discussion of Playground Administration, Supervision and Operation, including a course in athletic and social activities adapted for playground use.

The authors would appreciate correspondence regarding any points not made clear in this book. Any suggestions or criticisms will be gratefully received.

CONTENTS

	<i>Page</i>
PREFACE	5
INTRODUCTION, by Dr. William W. Hastings	13
 <i>PART I. THE PHILOSOPHY OF PLAY AND ITS APPLICATION</i>	
CHAPTER I. PLAY, CHILDHOOD AND THE PLAYGROUND, THEIR RESPECTIVE PLACES, by Arthur Leland	19
A. The Meaning of Play and Childhood	19
1. The Biological Theory of Life. 2. Instinct and Tradition. 3. The Meaning of Child- hood. 4. The Educational Value of Instinct and Play.	
B. The Place of the Playground	22
1. From Play to Work. 2. The Playground and the Play Director. 3. The Playground and the School. 4. Life. 5. Recreation and Unskilled Labor. 6. Why Recreation Should Be Supplied at Public Expense.	
CHAPTER II. THEORIES OF PLAY	26
1. The Surplus Energy Theory. 2. The Recreation Theory. 3. The Biological Theory. 4. The Psychological Standpoint. 5. The Aesthetic Standpoint. 6. Sociological Value. 7. Pedagogical Value.	
CHAPTER III. THE CONTRIBUTION OF THE NORTH AMERICAN INDIAN TO THE PLAYGROUND MOVEMENT	28
A. Selections from "Indian Boyhood," by Dr. Charles A. Eastman (Ohiyesa)	29
1. An Indian Boy's Training.	29
CHAPTER IV. THE PLAYGROUND AS A PHASE OF SOCIAL REFORM	34
A. The City Boy	34
B. The Need of Athletics for Girls, by Mrs. Charles F. Weller	35
CHAPTER V. PLAYGROUNDS AND DELINQUENCY	38
A. Public Playgrounds and Juvenile Delinquency, by Judge Ben B. Lindsey	38
B. Relation of Playgrounds to Juvenile Delinquency, by Allen T. Burns	42
C. Playgrounds and the Grand Jury	43
CHAPTER VI. THE NEED OF PLAYGROUNDS AND ORGANIZED PLAY IN RURAL DISTRICTS, by Myron T. Scudder	44
CHAPTER VII. THE PLAYGROUND AND PUBLIC HYGIENE	46
A. The Playground as a Factor in School Hygiene, by George E. Johnson	46
B. Hygienic Notes, by William W. Hastings, Ph.D.	50
C. Hygienic Value of the Swimming Pool, by Dr. J. H. Kellogg	50
D. Good Health and Good Government, by Hon. James F. Burke	51
E. One Million Pupils Doomed	52
 <i>PART II. PLAYGROUND ARCHITECTURE AND LANDSCAPE GARDENING</i>	
CHAPTER VIII. THE PLAYGROUND BEAUTIFUL, by Arthur Leland and Lorna Higbee Leland, Playground Architects	54
A. Need of Beautifying Playgrounds	54
B. Importance of a Comprehensive Plan	56
CHAPTER IX. THE DEVELOPMENT OF PLAYGROUND LANDSCAPE GARDENING AND ARCHITECTURE IN THE UNITED STATES	58
1. The Sport Field. 2. The Genesis of the Outdoor Gymnasium. 3. The Recreation Park, Louisville. 4. The Model Playground Triangle Park. 5. The First Wading Pool of the Country in a Small Park. 6. Central Park. 7. The Model Small Playground. 8. A System of Supervised Playgrounds. 9. Philadelphia, the John Dickinson Play- ground. 10. New York. 11. Chicago. 12. St. Paul Playgrounds. 13. Canandaigua, N. Y. 14. Rochester, N. Y.	

	<i>Page</i>
CHAPTER X. THE RECREATION PARKS OF CHICAGO, by Henry S. Curtis, Ph.D.	70
1. Origin. 2. Description. 3. Manner of Appointment of Board. 4. Cost. 5. Combine Beauty and Utility. 6. Outdoor Gymnasium for Men. 7. Playground for Small Children. 8. Outdoor Swimming Pool. 9. Field Houses. 10. Branch of Public Library. 11. Indoor Gymnasium for Men. 12. Auditorium and Club Room. 13. Supervision and Maintenance.	
CHAPTER XI. PLAYGROUNDS DOWN IN THE BLUE GRASS ("IN OLD KAINTECK"), by Madeline McDowell Breckenridge	78
<i>PART III. PLAYGROUND CONSTRUCTION</i>	
CHAPTER XII. CONSTRUCTION METHODS	82
A. Grades and Drainage	82
1. The First Work. 2. Drainage. 3. Specifications for Brick Meter Box. 4. Water System. 5. Retaining a Slope.	
B. Playing Surfaces	84
1. Running Track. 2. Baseball Diamond. 3. Under Swings. 4. Under Giant Stride. 5. Under see-saws. 6. Under Flying Dutchman. 7. Under Gymnasium. 8. Basketball Court. 9. Tennis Courts. 10. For Games. 11. Dancing. 12. Artistic Tennis Courts. 13. Swimming Pools.	
CHAPTER XIII. THE NORTH DENVER PLAYGROUND, by Arthur Leland	89
1. Improvements Completed. 2. Improvements Projected.	
CHAPTER XIV. THE EVOLUTION OF ST. PAUL, MINN., PLAYGROUNDS, by Arthur Leland and Lorna Higbee Leland	91
1. First Attempts. 2. Public Baths and Playgrounds. 3. The Present Movement. 4. How Land Was Secured. 5. Supervision. 6. Grading, Landscape Gardening and Buildings. 7. Play Equipment. 8. Opening Day. 9. Playground Benefit Baseball Game. 10. Charter Amendment. 11. The Children Secure Votes. 12. Publicity. 13. Two Baseball Leagues Organized. 14. School Teams Organized. 15. Attendance. 16. Fourth of July Play Festival. 17. Sources of St. Paul's Success. 18. Park Board and Advisory Playground Committee. 19. Politics. 20. Night Playgrounds. 21. Shower Baths. 22. Playground Self-government. 23. The Playground School Athletic League. 24. From Report of Superintendent of Parks. 25. Fighting the Street Railway to Save the Playground. 26. Playground Extension. 27. Gymnastic Equipment. 28. Minnesota State Law.	
CHAPTER XV. AN IDEAL DEVELOPMENT FOR A PLAYGROUND ON AN IRREGULAR TRACT OF LAND BETWEEN FIVE AND SIX ACRES IN EXTENT, by Lorna Higbee Leland	109
1. Grades. 2. Walks and Tracks. 3. Fences. 4. Landscape Gardening. 5. Play Facilities. 6. Boys' Playground. 7. Girls' Playground. 8. Little Children's Playground. 9. For Boys and Men. 10. For All. 11. Neighborhood Club House. 12. General Remarks.	
CHAPTER XVI. LANDSCAPE GARDENING	115
1. Trees. 2. Shrubs. 3. Flowers. 4. Vines. 5. Rules for Landscape Gardening. 6. The Use of Water. 7. Wading Pools for School Yards. 8. Shade. 9. Playground Conditions Best When Like Country. 10. Shade Absolutely Necessary.	
CHAPTER XVII. FENCES AND HEDGES	120
1. Reasons for Fencing Playgrounds. 2. Kinds of Fencing. 3. The Gates. 4. Wire Fence and Specifications. 5. Specifications of Fence.	
CHAPTER XVIII. LOS ANGELES PLAYGROUNDS AND BUILDINGS	123
A. Playgrounds	123
1. Visiting Nurse's Headquarters. 2. Club House. 3. Playground Library. 4. The Story Hour. 5. The Girls' Club. 6. Boys' Club.	
B. Celebrations During the Year	129
1. Christmas. 2. Circus Day. 3. Opening of Field House. 4. Fourth of July. 5. Annual Inter-playground Track Meet. 6. Special Features.	
C. Los Angeles Buildings	133
1. Club House. 2. Recreation Center. 3. Specifications of Municipal Recreation Center. 4. Specifications of Club House.	
D. Los Angeles Apparatus (Home Made)	156

PART IV. PHILOSOPHY OF CONSTRUCTIVE PLAY

CHAPTER XIX. THE PLACE OF CONSTRUCTIVE PLAY IN THE DEVELOPMENT OF THE INDIVIDUAL AND THE RACE AS CONTRASTED WITH ATHLETICS AND SOCIAL PLAY, by Arthur Leland, B.P.E.	Page 160
A. Value of the Two Types of Play	160
1. Athletic and Social Play. 2. Constructive Team Play. 3. Intelligence Developed Through Weakness. 4. Stones for Bread. 5. Children Should Make Their Own Toys. 6. Constructive Play in Education.	
B. Franklin: An Example in Play Education	164
1. Franklin's Childhood Training. 2. Practice Not Theory 3. The Play School. 4. The Playground and Adult Activity.	

PART V. THE TECHNIQUE OF CONSTRUCTIVE PLAY

CHAPTER XX. PLAYGROUND MANUAL TRAINING	168
A. Industrial Work Recommended by Committee on Normal Course of Play.	168
B. Constructive Play Activities for Children of Different Ages, by Harry W. Leland, B.S.	170
C. Athletics and Manual Training Correlated	170
D. The Playcraft League	170
CHAPTER XXI. DOMESTIC SCIENCE	173
1. Housekeeping and Cooking. 2. Domestic Economy. 3. A Model Workman's Home. 4. Play Hygiene. 5. Domestic Science in the Country School.	
CHAPTER XXII. PLAYGROUND EXCURSIONS AND CAMPS	176
A. Excursions	176
B. Poisonous Plants	176
C. Camps	177
1. Home Made Tent. 2. Family Camps. 3. A Vacation on a Raft, by A. S. Atkinson 4. A Bibliography of Camps.	
CHAPTER XXIII. THE PLAY COURSE IN FORESTRY AND GARDENING	181
A. Extracts from School Gardens, Bulletin No. 160	181
B. Extracts from Home Gardening Association, Cleveland, Ohio	185
C. Experimentation	187
D. Creation of New Species	187
E. A Plan of Reforestation	188
1. Bibliography. 2. Books Recommended by Committee on Normal Course in Play.	
CHAPTER XXIV. PETS AND THE DOMESTICATION OF ANIMALS	190

PART VI. THE EDUCATIONAL METHOD OF BUILDING PLAYGROUNDS

CHAPTER XXV. HOME MADE EQUIPMENT	192
A. The Advantages of Home Made Equipment	192
B. Common Sense in Playground Equipment	194
C. Some Inexpensive Playground Apparatus, by Dr. E. H. Arnold	195
1. The Jumping Pit. 2. The Balancing Tree. 3. The Hillock. 4. The Climbing Tree. 5. The Jumping Stairs.	
D. What Apparatus to Have	196
E. Materials	198
1. Rope. 2. Steel Cable and Hemp Rope. 3. Frames. 4. Frictionless Joints. 5. Wood 6. Concrete.	

CHAPTER XXVI. PLAYCRAFT—HOME MADE APPARATUS, PLANS, SPECIFICATIONS AND DIRECTIONS FOR THE MANUFACTURE OF THE SAME, by A. and L. H. Leland, Playground Architects	<i>Page</i> 201
This chapter is also issued in the form of reprints for use in the construction of apparatus	
1. Plan of Construction and Specifications for Basketball Goals and Screens, and Iron Pipe Jump Standards, (2) plans, (6) figures	201
2. Plan of Construction and Specifications for Horizontal Bars and Parallel Bars, (1) plan, (3) figures	204
3. Plan of Construction and Specifications for Sand Box and Frame Braces, (2) plans, (4) figures	206
4. Plan of Construction, Specifications and Contract for Furnishing Flying Dutchman, (1) halftone, (1) plan, (3) figures	208
5. Directions for Making and Erecting Swing Frames with Standard Fittings and with Universal Clamp Fittings, (1) halftone, (2) plans, (5) figures	211
6. Directions for Making Swings and Assembling Rope Fittings, Home Made and with Special Castings, (1) halftone, (6) plans, (10) figures	217
7. Directions for Making Home Made Wagon Skein Giant Stride, and Home Made Giant Stride with Machined Head, (2) plans, (7) figures	222
8. Directions for Making and Erecting Four and Five Board Teeter Frames, with Standard Fittings, and with Universal Clamp Fittings, Directions for Making Teeter Boards, (1) halftone, (2) plans, (6) figures	227
9. Directions for Making and Erecting Back Yard Equipment for Small Children, Directions for Making Slide to be Attached to Swing Frame, (3) plans, (10) figures	231
10. Directions for Making Combination Steel Ladder and Chest Bars with Jumping Pit and Steel Incline Ladder and Sliding Poles, (3) plans, (7) figures	235
11. Directions for Making and Erecting Combination Swing and Gymnasium Frame, Directions for Making Teeter Ladder, Steel and Wire Cable Ladder, Steel Trapeze, Steel Climbing Poles, and Trick Rings, (2) plans, (5) figures	239
12. Directions for Making and Erecting School Yard Merry-Go-Round and Giant Stride combined, with Flipping Board Attachment, (1) perspective, (1) plan, (6) figures	243
13. Directions for Making and Erecting Combination Teeter Ladder and Slide Frame, Adjustment Attachment for Bottom of Slide for Life Cable and All Seasons Slide, with Directions for Attaching Teeter Ladder to Frame, (3) drawings, (9) figures	247
14. Directions for Making and Erecting Slide for Life, two styles, (1) perspective, (2) plans, (7) figures	251
15. Directions for Making and Erecting Three-Story Playground Equipment, and Directions for Making Incline Ladder of Wood, (2) plans, (6) figures	255
16. Directions for Making and Erecting Combination Swing and Baby Swing Frame and Baby Swing, (1) halftone, (1) perspective, (2) plans, (7) figures	256
BIBLIOGRAPHY	260
APPENDIX. THE PROPER RELATION OF ORGANIZED SPORTS ON PUBLIC PLAY- GROUNDS AND IN PUBLIC SCHOOLS, by Lorna Higbee Leland	275
INDEX	281

ILLUSTRATIONS, DRAWINGS AND PLANS

Page

Frontispiece, "Nature Study," Around the Fish Pond	2
Hurdle Race in a Philadelphia School Playground	19
Little Children's Playground, Triangle Park, Louisville, Ky.	54
*Plan of Charlesbank Playground	59
*Plan of Boone Park, Louisville	60
Wading Pool in Triangle Park, Louisville	61
The Tennis Courts	62
*Plan of Central Park, Louisville	63
*Floor Plan of Field House and Pergola, Central Park, Louisville	64
Class in Boys' Gymnasium	65
Even the Outdoor Gymnasium May Have a Pleasant Setting	67
Who Can Touch the Branches?	68
*Plan of Recreation Building, Armour Square	71
*Hardin Square, a Recent South Park Playground	72
Nature's Summer Occupation for Children	73
Women's Gymnasium	74
The Swimming Pool	75
The Field House, Sherman Park	76
*Plan of Armour Square	77
*Plan of Brick Meter Box Used in St. Paul	83
Baseball Diamond, Triangle Park, Louisville	87
*Plan of North Denver Playground	88
Home Made Merry-Go-Round	90
On the Flying Dutchman	92
Plan of Como Avenue Playground, St. Paul	93
Bird's-eye View of Como Avenue Playground	95
*Elevation of Shelter House, St. Paul	95
*Floor Plan of Shelter House, St. Paul	96
Sand Boxes and Blocks for the Little Ones, St. Paul	97
Swings are Popular	98
A Leaf from the Dodger Used in the Playground Campaign, St. Paul	99
A Wrestling Match	101
Kindergarten Games for the Little Ones	102
Election Day at Como Avenue Playground	104
Officers of Como Avenue Playground City	105
*Plan of Arlington Hills Playground, St. Paul	106
*Plan of Como Park Playground, St. Paul	107
*An Ideal Development for a Playground on an Irregular Tract of Land between Five and Six Acres in Extent	110
*Baseball Back Stop	112
Neighborhood Club House, Central Park, Louisville	113

*Plans drawn to scale.

	<i>Page</i>
Artistic Tennis Courts, Hartford	117
Let Nature Furnish Shade	119
Artistic Fence Posts	120
*Plan of a Serviceable and Economical Fence	122
Field House at Echo Park Playground, Los Angeles	123
Municipal Recreation Center, Los Angeles	124
Porch of Superintendent's Bungalow Residence, Los Angeles	125
Living Room of Superintendent, Los Angeles	125
*Plan of Echo Park Playground, Los Angeles	126
Girls' Basketball, Los Angeles	128
Echo Park Playground Club House, Los Angeles	129
Playground Library, Los Angeles	130
Teeter Boards on Vacation Playground, Los Angeles	131
*Basement Plan of Club House at Slauson Avenue Playground, Los Angeles	132
*First Floor Plan of Club House, Slauson Avenue Playground, Los Angeles	134
*Plan of Second Floor and Basement of Municipal Recreation Center, Los Angeles	135
*Municipal Recreation Center, Plan of Gymnasium, Auditorium and Proposed Additions	136
Swings at Violet Street Playground, Los Angeles	156
Outdoor Combination Gymnasium, Los Angeles	157
Outdoor Gymnasium at Echo Park, Los Angeles	158
Teeter Ladder, Los Angeles	158
"Let the Children Help Put Up Swings"	161
"The Gang Learns Building," Columbus Avenue Playground	163
Carpentry at Social Center, Philadelphia	165
Playcraft at Philadelphia	169
A Home Made Tent	177
Enjoying the Fruits of their Labor	179
Play Gardening in the Columbus Avenue Playground	182
Chariot Race in the Philadelphia Playground	193
Home Made Giant Strides, Los Angeles	194

The cuts and drawings for the construction of Playground Apparatus are listed in the Table of Contents under the Titles for the Subject Matter.

*Plans drawn to scale.

INTRODUCTION

In presenting to the public *PLAYGROUND TECHNIQUE AND PLAYCRAFT* there is recorded by Mr. and Mrs. Leland a step forward in the practical working out of the real problems of the whole playground movement. The authors have the advantage of years of solid experience, and speak not in the manner of old maids lecturing on the care of children to Mothers' Clubs, but as those who have been through the birth throes, infantile diseases and obstreperous childhood of the playground itself.

Mr. Leland is one of the pioneers in the practical work of playground organization, construction and administration. It is doubtless this fact that has inspired the confidence which has secured for him on the Advisory Committee such a large majority of the playground experts of the United States.

Time was when movements developed more slowly, and when people were satisfied for a generation with books and pamphlets dealing in popular opinions and disorganized generalities, but this is no longer true. The public demands facts, and it wants them in accurate and organized form. When we buy a book today we want the author to have really done our thinking for us. We want it well illustrated for the same reason. Time was when we expected only the facts of a science to be given us. Now we want to be shown what to do with the facts, how to teach them to others and how to take our place in the organized movements of the times, in brief, the public has not time to "Fletcherize" its mental tabulum.

The playground movement has made such phenomenal strides in the last ten years—even in the last five years, and the demand for accurate information has become so great in every quarter that such a book had to be provided. Some of the commonest needs and the most frequent requests which come to the editor and to the playground leader are with reference to the best books and articles on games and plays and on the problems of the movement, the best mode of appeal for rousing public sympathy and touching pocketbooks, how to organize a campaign for a playground, what qualities should be emphasized in the make-up of the leader or supervisor, what are the sanest and most economical plans for playground construction, what are the essentials of playground equipment, and how can the greatest economy of effort and of money be assured. Most of these questions are answered in *PLAYGROUND TECHNIQUE AND PLAYCRAFT* in a concise way by practical, experienced people.

In *PLAYGROUND TECHNIQUE AND PLAYCRAFT* there has been grouped and stated for the first time the essentials of the various phases of the subject. That is the chief function of this work,—to provide accurate information along every line for the playground worker and supporter.

A secondary but exceedingly important function of this volume is the provision of construction plans and specifications for all useful playground apparatus, showing how to make a dollar do the work of two. First things are always the hardest to secure and first money must always be husbanded with greatest care. This department will, therefore, prove invaluable to the majority of supervisors and committees on construction.

The publication of reprints of these construction plans and specifications, for use by architects, contractors, machine shops, mechanics, and others engaged in the work of practical construction, will do much to simplify and cheapen the process. It puts accurate information within the reach of all, and encourages the equipment of model playgrounds for the inauguration of the movement where it has hitherto been deemed impracticable.

There is nothing so valuable as accurate figures and a well-outlined plan to inspire confidence in a movement. **PLAYGROUND TECHNIQUE AND PLAYCRAFT** will be found helpful by all who require real information and inspiration.

WM. W. HASTINGS.

"The plays of adolescence are socialistic, demanding the heathen virtues of courage, endurance, self-control, bravery, loyalty, enthusiasm."—*Gulick*.

"We have gone far to civilize the business of play out of existence."

"Rather a playground without a school than a school without a playground."—*Dr. Woods Hutchinson.*

"Much of the burden of future education, in teaching children loyalty, honesty, coöperation and self-sacrifice, rests on the public playground instructor. The very foundations of the Republic are to be worked out on the public playground; that is where boys learn how to resist evil. A young man will never in his life have such great temptations, in the midst of such absorbing interests, as on the ball field, when he wants to cut corners. There he learns that it doesn't pay to play crooked. Where can he show greater self-sacrifice than when he effaces himself in order that his team may make another run?"—*Thos. A. Curley.*

"Gentleness and cheerfulness, these come before all morality; they are the perfect duties."

"If your morals make you dreary, depend upon it they are wrong. I do not say 'give them up,' for they may be all you have; but conceal them like a vice, lest they should spoil the lives of better and simpler people."

"There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good: myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy—if I may."—*Robert Louis Stevenson.*

PART I

THE PHILOSOPHY OF PLAY AND ITS APPLICATION

“Why have playgrounds? Why? Why does a flower need the light? The child needs a playground because his growth is through activity, through those specific forms of activity which his nature has prescribed, and because, accordingly, he will never grow up—or he will grow up stunted and perverted—if he is denied those opportunities and objects to which his vital, instinctive and formative activities relate.”

“The thing that most needs to be understood about play is that it is not a luxury but a necessity. It is not simply something that a child likes to have; it is something that he must have if he is ever to grow up. It is more than an essential part of his education; it is an essential part of the law of his growth, of the process by which he becomes a man at all.”

—*Joseph Lee.*



HURDLE RACE IN A PHILADELPHIA SCHOOL PLAYGROUND

CHAPTER I

PLAY, CHILDHOOD AND THE PLAYGROUND, THEIR RESPECTIVE PLACES

BY ARTHUR LELAND

A. THE MEANING OF PLAY AND CHILDHOOD

1. THE BIOLOGICAL THEORY OF LIFE. The idea that man has been evolved in countless æons of time through variation, unending experimentation and selection on the part of nature is now generally accepted as the true theory of life. To many, it may seem irreverent to think of God the Creator, as manifest in nature, creating, experimenting, judging and preserving the best and rejecting the inefficient and useless; but to many the developmental theory of life stands for the very essence of religion and faith. Is this not Immanuel, God with us! Are we not all part of nature and thus partakers in the evolution of the kingdom of heaven?

Biologists tell us that man is the product of lower forms of life, each of which has contributed its share to the grand total, then stagnated, while man, apparently the favored one, kept going on and on.

We are also told that each individual passes through all the essential stages of growth which have preceded it. That both animals and man draw upon the life of the past, that they are created in the light of the accumulated experience of the race. That in order to attain the best development in the higher stages of life, all the earlier and lower reactions and experiences which have been valuable in race development must be passed through.

2. INSTINCT AND TRADITION. These experiences and reactions have been crystallized in instincts and traditions for the benefit of future genera-

tions. Many of the lower forms of life require no training or education, as they come into life fully equipped by instinct for all their struggles, but they never progress.

As we ascend the scale of creation, we find life becoming incomplete at birth, requiring the care of a parent for protection and feeding. The higher and higher we rise, the more complex life becomes and the more helpless we find the infant, until we reach the human family, whose child is the most helpless of all and the least fitted by instinct to care for itself. But as compensation, the divinity of motherhood and fatherhood have been created to care for and train this helpless waif, until after spending one-third of its life in preparation for its duties, it is prepared to carry on alone its burden of the other two-thirds and help in the ever upward ascent.

3. THE MEANING OF CHILDHOOD. The meaning of this is apparent, the more complex the life, the longer time required in preparation. Groos says the children play not because they are young but they are young in order that they may play.

Up to a certain point young animals and children have inherent impulses for self education. The character and direction these impulses will take will depend upon environment and training. If the instincts of the child are to be directed to beneficent results, they require education. This education can be given through conscious and unconscious imitation in play of the things which the child sees going on about him. We see in this the need for proper environment, for the child becomes what he is through what he does, and he imitates what he sees. Under ideal conditions, it might not be necessary to have specialized play instruction, but where will we find ideal conditions? Certainly not in the crowded city nor in the country village, and it is doubtful if the beautiful country itself is free from some of the taint which hangs about the places before mentioned.

We see then that play is nature's short cut to experience; that it is the key which opens to the child the store house in which is treasured the experience of the race.

4. THE EDUCATIONAL VALUE OF INSTINCT AND PLAY. Groos says that "play is activity without serious intent" and that "in child's play opportunity is given through the exercise of inborn dispositions to strengthen and increase his inheritance in the acquisition of adaptations to his complicated environment; an achievement, which would be unattainable by instinct alone." * In other words, through play guided by instinct, the child supplements his inheritance with a possibility of constant change in adaptation to environment. It is his adaptability which differentiates man from the lower animals.

Instinct, however, is transitory. Any of you who were raised on a farm will know that if the calf is kept away from the cow it can be raised by hand and will never know what it is to obtain nourishment in the tradi-

*" Play of Man," page 2.

tional manner. Incubator chickens do not know the call of the old hen, if they are kept away from her for a few days; so it is with most instincts. James, speaking of this quality of instinct says, "in all pedagogy, the great thing is to strike while the iron is hot, and to seize the wave of the pupils' interest in each successive subject, before its ebb has come, so that knowledge may be got and a habit of skill acquired—a headway of interest, in short, secured, on which afterwards the individual may float. There is a happy time for fixing skill in drawing, for making boys collectors in natural history and presently dissectors and botanists."* "The natural conclusion to draw from this transiency of instincts," says James, "is that most instincts are implanted for the sake of giving rise to habits, and that this purpose once accomplished, have no *raison d'être* in the physical economy and consequently fade away."

Childhood and youth then are the time for action; all the habits and reflexes which are to govern in later life must be formed during adolescence. The alluring call of instinct to play, moreover, must be heeded and obeyed at the proper time or like the water running through the mill dam, which is not harnessed to the wheel, it will be forever lost. Thus we see the plays of childhood have a definite pedagogical value, for through these plays, when taken advantage of, right life habits of physical, mental and moral reaction may be formed. We see that there is a time when children can learn to play ball, to throw, to jump, to dance, to handle tools and to train their imaginations. The infallible guide to the recognition of these times is the children's desire and interest, when they are given free choice. There are times and seasons when children wish to play and must engage in certain games and occupations in order to secure the nervous structure, mental and moral training which these pursuits are able to give, or they will be deficient all their lives in so far as these qualities have been necessary to the higher development of the race.

Of course it may be possible, in some measure, to drive in some of these lessons by work and bitter experience. Possible but not probable. Play is the natural and easy method to knowledge, unhampered by the struggle for existence.

The experience of a physical director of our acquaintance illustrates this point. When a child he cut the cords of two fingers on the left hand. This left a large tender scar just where the baseball is caught. It was impossible to catch a hard ball without a heavily padded glove, which was financially impossible. In addition to this, undiscovered nearsightedness from birth made it impossible to judge the ball in catching. So not wishing to be "guyed," baseball was a closed book. At the age of fourteen, the visual and financial difficulties were removed, but sensory adaptations and motor reactions required for judging distances and catching and throwing could not be learned. The time was past. Even after years of trying at school and elsewhere, it had to be given up as "a bad job."

*"Education by Plays and Games," Johnson, page 14; and James' "Psychology," Vol. 2, page 400.

B. THE PLACE OF THE PLAYGROUND

1. FROM PLAY TO WORK. While play is spontaneous, agreeable and without any motive other than the enjoyment it brings, we see that it is also the most serious business of childhood. Children's play does not pertain so largely to recreation as does the play of adults. When children play for recreation, they call it "jus' foolin'."

It is this seriousness of children's play which gives to it its educative value, for so surely as there is a time for each form of play, there is a time and method when play shades off into work. The true ideal of work is when it becomes art. Art often gives to the adult the stimulus for education and advancement, which the play instinct gives to the child. The child who has passed through the successive stages of play, which his nature demands, will take up work in the spirit of play when the proper time comes. Joseph Lee has well said, "the boy without a playground is father of the man without a job, and the boy also with a bad playground is the father of the man doing a job which shouldn't be done."

The main connecting link between work and play is found in occupations such as obtain in the kindergarten and in such occupations as are directed by the needs of the play instinct. These activities suggest to children something beyond mere play, but they are still play, and the manual training given on the playground should be such as to be kept always near the limits of play. An instance of a first class method of playground manual training comes from Australia—an account of an old woman's direction of the occupation of young girls: "The old woman herself collected the material, built a skin hut and taught each of the little ones with great care to make small ones like the large model. She showed them where to get the gum and how to use it; she sent the girls to get rushes and taught them how to weave baskets over round stones," etc.*

This is the type of constructive play which is and always will be applicable to the playground.

The hobbies of adults are similar to the play constructive activities of children.

2. THE PLAYGROUND AND THE PLAY DIRECTOR. For the children, the office of the playground is to provide the means for the exercise of the function of play, and the place of the play director is to know the requirements of the child, and the possibilities of play and to guide these lessons of play so that the right form at the right time may be available; to lead the play activities of the child, so that the fullest and best expressions of each stage of development may be obtained; to continually raise the standards of the present stage and usher the child into new possibilities of play in accordance with the laws of growth. Thus we see that the playground's duty to the child is educational; however, as the play element in teaching is made more and more an integral part of the school curriculum, the

*Smith, "The Aborigines of Victoria," Vol. I, page 50, cited by Groos' "Play of Man," page 402.

office of the playground will be more and more to concern itself with public recreation. As Mr. DeGroot says, "Chicago suggests that our very inclusive term, 'public playground,' stands primarily not for swings and teeters, not for kindergarten and constructive work, not for gardening and nature study, and not for an orthodox educational policy, but rather for *public recreation—a public education that has at one end the play of children and at the other end the relaxation of young men, young women and adults.*"

3. THE PLAYGROUND AND THE SCHOOL. Whatever the educational end which the playground has to serve, its educational mission must be carried on through the recreative end of play. The school has its place, which the playground cannot and should not attempt to usurp. The more of play and recreation which can be enthused into school work without defeating its aim, of giving a prescribed system of education adapted to the needs of all children, the better for our system of public schools. The attempt, however, to prescribe a system of educational play without absolute freedom for the child to choose just what he will play and what he won't play is entirely foreign to our conception of a playground. We must prescribe our system to fit the child; if he accepts, it may be the right system, it may not be. Children might enjoy absolutely injurious and immoral plays. If, however, he won't take our system, then the system must be modified until he will take it.

The school and work, however, have a distinctive value in the education of the child, for at school one should learn to work and everything in life cannot be done in the spirit of play. Groos says "Among primitive races, where the life work is for the most part guided by nature, at least in the case of males, boys may get sufficient preparation from play for their later life, though even they usually have some instruction at the outset, but with civilized people, usage to earnest, persistent effort, that is not dependent upon caprice or impulse, is an indispensable condition of success in the struggle for life, and for this reason school life should promote a high sense of duty as opposed to mere inclination."

4. LIFE. The standards of life are absolute in America. A man is successful or unsuccessful. He succeeds or he fails in whatever he undertakes, and the judgment of the world is harsh. We worship success.

The standard of team games on the playground are also absolute. The boy makes the team if he can "deliver the goods." In a hotly contested game of baseball if a wild throw is made, if inefficiency is shown it is not pardoned or condoned. "The plea that little Johnny did his best don't go down on the play field." In this the playground represents life and in this its purpose and *raison d'être* is found. In the school if little Johnny fails he is passed up. In the home if little Johnny doesn't do what he ought to do perhaps a little moral suasion serves the purpose. If little Johnny fails to get his Sunday school lesson or be a good boy God will forgive him, but if little Johnny cannot catch a "pop up" or is afraid to

tackle a "hot liner" with bare hands his peers sit in judgment and the jury of equals pronounce the verdict, "Go play with the kids!" "Give him the sack off the team!"

This is reality and if we can enthuse into adult work the seriousness which is found in such play as this then it would be quite certain that the work of the world would be much better done.

President Lowell in an article "Competition in College" suggests that play might be defined as activity which has as its end training for future usefulness. Such a definition of play seems to us to more fully meet the modern idea than that advanced by Groos. It leads us to the standpoint that play and education are the same. Oftentimes the "present enjoyment" may be prospective only, having place in the imagination. The drudgery and work of athletic training can be considered play only in this sense. Play of this character is on the border land of work and prepares for it.

The professional man, the artist, the skilled artisan following a calling which is pleasing to him and in which his highest ability is called into play can pursue his work in this spirit especially if he is not oppressed by the shall and must of working for the necessities of life.

5. RECREATION AND UNSKILLED LABOR. But the great majority of mankind cannot be artists, nor professional men, nor skilled workers at least in this stage of economic and mechanical development. The invention of machinery doing away with exertions of physical strength in performing work is a step in this direction or a step in a process which tends to eliminate work and the hard struggle for existence. Instead of machinery being a curse to laboring man it is in reality a blessing for it enables him to do more work with the same expenditure of energy than was ever possible with hand made implements. And even though the running of a machine is drudgery and does not call into play the latent capabilities of a man's talent nor give exercise to his imagination, it can and will make all life easier when the proper adjustments between capital and labor are made. This work, however, must be supplemented by an amount of recreation which will add to the worker's life the elements which machine labor does not inspire or instill and which have been valuable in the development of the race. A system of recreation must supply these needs. As work, back-breaking work, is diminished, play must be increased, for the adult as well as the child. The tendencies and directions which adult recreation will take can be determined by the play interests which are formed in childhood. The elements of play can be enthused into work oftentimes by means of competition. When we were boys, we all know how much easier it was to pick up rocks, or to hoe to the end of the row, if another boy was alongside trying to see who could get there first. We all remember how Tom Sawyer got his fence whitewashed. The same thing is true when the men in the shop try to see who can varnish the most boxes in a day, or see who can run the greatest number of spindles through a machine. Piece work of course is the only kind of work to which this principle can be applied.

6. WHY RECREATION SHOULD BE PROVIDED AT PUBLIC EXPENSE.*

Public recreation should be provided first for economic reasons, for the same reasons which make us provide public schools, public streets, public sewers, etc.; second for sociological reasons. If recreation is not provided by the public for the public, it will be provided by private interests for personal, commercial and selfish ends.

Our cities have been built with an absolute disregard for the child. The beauties of nature, and that close association with mother earth, which is so valuable to healthful childish growth, has been left out. There is no space or incentive for physical exercise. The city lacks trees for the children to climb, sand banks for them to jump from, water for wading and swimming. There are no wood piles to saw, no animals to take care of, to train or domesticate, no chores to do, no regular duties which must be performed and no responsibilities which lead to growth. There are no work shops with tools lying around handy, with which the children can cut their fingers, and make bird houses, sleds, bows and arrows, wind-mills, water-wheels. The parents work in shops where the children are not allowed to go. "No admittance" signs appear wherever the child could learn anything useful; "Keep off the grass" signs on every green spot. With no chance for imitation to exercise itself in legitimate ways, the child naturally imitates things which he should not. As the children of the city grow to young manhood and young womanhood, their amusements are commercialized with sad results. Society to protect and preserve itself must provide healthful play and recreation which the city has crowded out.

The country lacks many things also. The training of the farm has produced a type of individualistic ability, which has accomplished much. It does not, however, develop coöperation, or the ability to work together with other individuals. The "social unrest," the differences between capital and labor, and by far most of the ills caused by city life are due to this individualistic attitude of the leaders and capitalists which country life has developed.

The beginning of a new era is at hand, an era of competition for coöperation. The leaders will now come from the city rather than from the country; in fact the regeneration of the country must come from the city, for the best blood of the country has built up the city. The unfavorable conditions of country life have been discussed at length recently, and are so serious that President Roosevelt appointed a Country Life Commission to investigate. Through the play of children the unfavorable conditions of both city and country life may be remedied most easily. It will be extremely difficult to change the settled ways of the population in our small villages and country towns in any other way. When we can bring more of the country to the city and more of the city to the country, the life in both places will be greatly improved.

*See Chapter IV.

CHAPTER II

THEORIES OF PLAY*

1. **THE SURPLUS ENERGY THEORY.** In order to explain the phenomena of play, various theories have been advanced; the first of these propounded by Spencer is that man and animals are endowed with more energy than is required in the struggle for existence. This allows some of their powers periods of rest, while others are being exercised, and they work off their surplus energy by means of play. This theory explains some of the conditions of play, but play is sometimes engaged in by creatures when they are so tired as to preclude the possibility of there being much surplus energy stored up. It does not explain the recreation of adults.

2. **THE RECREATION THEORY.** Another theory advanced is that play is exercised when the body is tired, for the purpose of recreation. This theory has its most scientific champion in Lazarus. Simply stated, it is that when we are tired of mental or physical labor and do not wish to sleep or rest, play furnishes welcome and active recreation. The change from one form of activity to another rests the powers which have been exercised. This theory does not explain the fact that after play is started, repetition causes its continuation long after the period of rest. Children will absolutely lose themselves in present enjoyment, when they strike the right combination. They sometimes keep up until exhausted. Baldwin has emphasized this point. These theories of play explain some of the phenomena but do not explain everything.

3. **THE BIOLOGICAL THEORY.** Darwin contends that play is biological; that our ancestors spent their time fighting, experimenting, hunting, organizing, etc., and accordingly in us the impulses to fighting, chasing, social and other plays are clearly shown. Darwin's theory of natural selection has been disputed, authorities differing in regard to whether acquired characteristics are inherited or not. Baldwin has amended the biological theory by what is called "organic selection" and Weismann by his germinal selection theory. According to the former, the inheritance of acquired accommodations is unnecessary, their object being sufficiently accomplished, if they keep the creature afloat in their environment until natural selection has had time to build up hereditary adaptations. Weismann transfers selection into a struggle of germ substance (the determinants) which represent the respective parts of the future individual. Each "determinant" struggles for sustenance against its neighbor, so producing a sort of germinal selection, the stronger elements developing at the expense of the weaker and the force so acquired being transmitted to the offspring, with a favorable footing in the struggle for life which insures further progress in the same direction.

*Abstract of last part of Groos' "Play of Man," pages 361-406.

4. **THE PSYCHOLOGICAL STANDPOINT.** The psychological explanation of play advanced by Wundt is that an animal can play only when certain memories which are accompanied by pleasurable feelings are renewed, yet under aspects so transformed that all painful effects vanish and only agreeable ones remain; thus when a young dog seizes a piece of cloth, shaking it violently in its teeth, such play exhibits the playful activity of former generations. The standpoint seems to explain the attraction to children of playing in the water, and for many, fighting, hunting and dramatic plays. The pleasures of play when analyzed from the psychological standpoint seem to be brought about through the exercise of attention, the demand for a sufficient cause and imagination. The first of these items seems to be present with us from infancy.

The desire to be an efficient cause has both a motor and a theoretic form; we demand a knowledge of experimental effects, and we desire ourselves to be producers of effects, and through reproducing, the original idea is perfected.

In many games, there is a veritable playing of a role, for example when children represent different animals. It is quite probable that in this play they feel many of the emotions which obtained in the animals which they represent. When children play being chased by a bear, they, for the time being, seem to feel much of the fear which the aboriginal man might have felt. Much of the pleasure of golf can be explained in this way, for when looked at logically, what pleasure can be obtained from knocking a little ball over a ten acre lot and then chasing it up and knocking it into a little hole!

5. **THE ÆSTHETIC STANDPOINT.** There is also an æsthetic value to play, which is especially prominent in the development of music, poetry and art. The first thing with which it is concerned is in the transference of thought from a copy to an original. The children's artistic efforts, their imitations of singing, drawing, etc., are essentially playful. The primitive festival, combining as it did music and poetry with dancing, had a tremendous effect upon its witnesses and was in its manifestations essentially playful. When this æsthetic development of play is pursued to produce a pleasurable effect on others rather than as an end in itself, it becomes art.

6. **SOCIOLOGICAL VALUE.** Play has a sociological value. The union of early tribes for their dances and feasts made it possible for them to work together for serious purposes and the best way now to secure coöperation seems to be through community of interest in plays and recreation.

7. **PEDAGOGICAL VALUE.** The pedagogical standpoint of play, we have already dwelt upon. Groos says in completing his treatise on play, "finally it should be emphasized that the beautiful task of play, the development of the individual to full manhood or womanhood by means of an all-round exercise of his or her capabilities is retarded by restriction to one particular form of play."

A complete explanation of play no doubt will be found in a combination of all of these theories and others which have not yet been discovered.

CHAPTER III

THE CONTRIBUTION OF THE NORTH AMERICAN INDIAN TO THE PLAY-GROUND MOVEMENT

Some one has said "a child's brain is like a flower, that blossoms in perceptions and goes to seed in abstractions. Correct concepts are the raw material of reason. Every desk in your school is an intellectual loom, which is expected to weave a sound fabric out of rotten raw material."

The life of the savage depended upon his correct interpretation of natural phenomena, consequently the children were taught to see, to observe, and to interpret nature about them.

When man became civilized, many things were lost. Chief among these seems to be the ability to properly educate and interpret childhood. Living as civilized people do, less by instinct than do the less highly civilized races, our reasons have been running away with our instincts.

One of the primary instincts is the proper care and training of children. It is our opinion that the average boy belonging to the Sioux Indian tribe was better educated to fit the conditions with which he had to cope than is the average product of our present much boasted civilization. In the race after the material things of civilization we have forgotten some of the essentials.

As a nation we are self-indulgent and we raise our children too tenderly and indulgently. This nation was not founded on "soft snaps" or "easy jobs." Well-regulated hardship is a splendid character builder.

Furthermore, our children are not taught to learn facts by observation during childhood; consequently, they enter adult life unprepared. It is just as important for the city child to read the signs of the times and learn to take care of himself under present conditions, as it was for the Indian to read the signs of the forest. Observation and interpretation of natural phenomena seems to be the first step in the education of correct reasoning.

Dr. Charles A. Eastman (Ohiyesa) has kindly permitted us to use some chapters from "Indian Boyhood," which we think apply in full measure to the present educational dilemma. There are many things about manhood which the Indian can teach our boys and our men, and many of the things may apply to the girls as well.

AN INDIAN BOY'S TRAINING

BY CHAS. A. EASTMAN, M.D. (OHIYESA)

Selections Reprinted from "Indian Boyhood," by Permission.*

It is commonly supposed that there is no systematic education of their children among the aborigines of this country. Nothing could be farther from the truth. All the customs of this primitive people were held to be divinely instituted, and those in connection with the training of children were scrupulously adhered to and transmitted from one generation to another.

The expectant parents conjointly bent all their efforts to the task of giving the newcomer the best they could gather from a long line of ancestors. A pregnant Indian woman would often choose one of the greatest characters of her family and tribe as a model for her child. This hero was daily called to mind. She would gather from tradition all of his noted deeds and daring exploits, rehearsing them to herself when alone. In order that the impression might be more distinct, she avoided company. She isolated herself as much as possible, and wandered in solitude, not thoughtlessly, but with an eye to the impress given by grand and beautiful scenery.

The Indians believed, also, that certain kinds of animals would confer peculiar gifts upon the unborn, while others would leave so strong an adverse impression that the child might become a monstrosity. A case of hare-lip was commonly attributed to the rabbit. It was said that a rabbit had charmed the mother and given to the babe its own features. Even the meat of certain animals was denied the pregnant woman, because it was supposed to influence the disposition or features of the child.

Scarcely was the embryo warrior ushered into the world, when he was met by lullabies that speak of wonderful exploits in hunting and war. Those ideas which so fully occupied his mother's mind before his birth are now put into words by all about the child, who is as yet quite unresponsive to their appeals to his honor and ambition. He is called the future defender of his people, whose lives may depend upon his courage and skill. If the child is a girl, she is at once addressed as the future mother of a noble race.

In hunting songs, the leading animals are introduced: they come to the boy to offer their bodies for the sustenance of his tribe. The animals are regarded as his friends, and spoken of almost as tribes of people, or as his cousins, grandfathers and grandmothers. The songs of wooing, adapted as lullabies, were equally imaginative, and the suitors were often animals personified, while pretty maidens were represented by the mink and the doe.

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Very early, the Indian boy assumed the task of preserving and transmitting the legends of his ancestors and his race. Almost every evening a myth, or a true story of some deed done in the past, was narrated by one of the parents or grandparents, while the boy listened with parted lips and glistening eyes. On the following evening, he was usually required to repeat it. If he was not an apt scholar, he struggled long with his task; but, as a rule, the Indian boy is a good listener and has a good memory, so that the stories were tolerably well mastered. The household became his audience, by which he was alternately criticized and applauded.

This sort of teaching at once enlightens the boy's mind and stimulates his ambition. His conception of his own future career becomes a vivid and irresistible force. Whatever there is for him to learn must be learned; whatever qualifications are necessary to a truly great man he must seek at any expense of danger and hardship. Such was the feeling of the imaginative and brave young Indian. It became apparent to him in early life that he must accustom himself to rove alone and not to fear or dislike the impression of solitude.

It seems to be a popular idea that all the characteristic skill of the Indian is instinctive and hereditary. This is a mistake. All the stoicism and patience of the Indian are acquired traits, and continual practice alone makes him master of the art of woodcraft. Physical training and dieting were not neglected. I remember that I was not allowed to have beef soup or any warm drink. The soup was for the old men. General rules for the young were never to take their food very hot nor to drink much water.

My uncle, who educated me up to the age of fifteen years, was a strict disciplinarian and a good teacher. When I left the teepee in the morning he would say: "Hakadah, look closely to everything you see;" and at evening, on my return, he used often to catechize me for an hour or so.

"On which side of the trees is the lighter-colored bark? On which side do they have most regular branches?"

It was his custom to let me name all the new birds that I had seen during the day. I would name them according to the color or the shape of the bill, or their song, or the appearance and locality of the nest—in fact anything about the bird that impressed me as characteristic. I made many ridiculous errors, I must admit. He then usually informed me of the correct name. Occasionally I made a hit and this he would warmly commend.

He went much deeper into this science when I was a little older, that is, about the age of eight or nine years. He would say, for instance:

"How do you know that there are fish in yonder lake?"

"Because they jump out of the water for flies at midday."

He would smile at my prompt but superficial reply.

"What do you think of the little pebbles grouped together under the shallow water, and what made the pretty curved marks in the sandy

bottom and the little sand-banks? Where do you find the fish-eating birds? Have the inlet and the outlet of a lake anything to do with the question?"

He did not expect a correct reply at once to all the voluminous questions that he put to me on these occasions, but he meant to make me observant and a good student of nature.

"Hakadah," he would say to me, "you ought to follow the example of the shunktokecha (wolf). Even when he is surprised and runs for his life, he will pause to take one more look at you before he enters his final retreat. So you must take a second look at everything you see.

"It is better to view animals unobserved. I have been a witness to their courtships and their quarrels and have learned many of their secrets in this way. I was once the unseen spectator of a thrilling battle between a pair of grizzly bears and three buffaloes—a rash act for the bears, for it was in the moon of strawberries, when the buffaloes sharpen and polish their horns for bloody contests among themselves.

"I advise you, my boy, never to approach a grizzly's den from the front but to steal up behind and throw your blanket or a stone in front of the hole for he does not usually rush for it, but first puts his head out and listens and then comes out very indifferently and sits on his haunches on the mound in front of the hole before he makes any attack. While he is exposing himself in this fashion aim at his heart. Always be as cool as the animal himself." Thus he armed me against the cunning of savage beasts by teaching me how to outwit them.

"In hunting," he would resume, "you will be guided by the habits of the animal you seek. Remember that a moose stays in swampy or low land or between high mountains near a spring or lake, from thirty to sixty days at a time. Most large game moves about continually, except the doe in the spring; it is then a very easy matter to find her with the fawn. Conceal yourself in a convenient place as soon as you observe any signs of the presence of either, and then call with your birchen doe-caller.

"Whichever one hears you first will soon appear in your neighborhood. But you must be watchful or you may be made a fawn of by a large wild-cat. They understand the characteristic call of the doe perfectly well.

"When you have any difficulty with a bear or a wild-cat—that is, if the creature shows signs of attacking you—you must make him fully understand that you have seen him and are aware of his intentions. If you are not well equipped for a pitched battle, the only way to make him retreat is to take a long sharp-pointed pole for a spear and rush toward him. No wild beast will face this unless he is cornered and already wounded. These fierce beasts are generally afraid of the common weapon of the larger animals—the horns, and if these are very long and sharp, they dare not risk an open fight.

"There is one exception to this rule—the grey wolf will attack fiercely when very hungry. But their courage depends upon their numbers; in this they are like white men. One wolf or two will never attack a man.

They will stampede a herd of buffaloes in order to get at the calves; they will rush upon a herd of antelopes, for these are helpless; but they are always careful about attacking man."

Of this nature were the instructions of my uncle, who was widely known at that time as among the greatest hunters of his tribe.

All boys were expected to endure hardship without complaint. In savage warfare, a young man must, of course, be an athlete and used to undergoing all sorts of privations. He must be able to go without food and water for two or three days without displaying any weakness, or to run for a day and night without any rest. He must be able to traverse a pathless and wild country without losing his way either in the day or night time. He cannot refuse to do any of these things if he aspires to be a warrior.

Sometimes my uncle would waken me very early in the morning and challenge me to fast with him all day. I had to accept the challenge. We blackened our faces with charcoal, so that every boy in the village would know that I was fasting for the day. Then the little tempters would make my life a misery until the merciful sun hid behind the western hills.

I can scarcely recall the time when my stern teacher began to give sudden war-whoops over my head in the morning while I was sound asleep. He expected me to leap up with perfect presence of mind, always ready to grasp a weapon of some sort and to give a shrill whoop in reply. If I was sleepy or startled and hardly knew what I was about, he would ridicule me and say that I need never expect to sell my scalp dear. Often he would vary these tactics by shooting off his gun just outside of the lodge while I was yet asleep, at the same time giving blood-curdling yells. After a time I became used to this.

When Indians went upon the war-path, it was their custom to try the new warriors thoroughly before coming to an engagement. For instance, when they were near a hostile camp, they would select the novices to go after the water and make them do all sorts of things to prove their courage. In accordance with this idea, my uncle used to send me off after water when we camped after dark in a strange place. Perhaps the country was full of wild beasts, and, for aught I knew, there might be scouts from hostile bands of Indians lurking in that very neighborhood.

Yet I never objected, for that would show cowardice. I picked my way through the woods, dipped my pail in the water and hurried back, always careful to make as little noise as a cat. Being only a boy, my heart would leap at every crackling of a dry twig or distant hooting of an owl, until, at last, I reached our teepee. Then my uncle would perhaps say: "Ah, Hakadah, you are a thorough warrior," empty out the precious contents of the pail, and order me to go a second time.

Imagine how I felt. But I wished to be a brave man as much as a white boy desires to be a great lawyer or even President of the United States. Silently I would take the pail and endeavor to retrace my footsteps in the dark.

With all this, our manners and morals were not neglected. I was made to respect the adults and especially the aged. I was not allowed to join in their discussions, nor even to speak in their presence, unless requested to do so. Indian etiquette was very strict, and among the requirements was that of avoiding the direct address. A term of relationship or some title of courtesy was commonly used instead of the personal name by those who wished to show respect. We were taught generosity to the poor and reverence for the "Great Mystery." Religion was the basis of all Indian training.

I recall to the present day some of the kind warnings and reproofs that my good grandmother was wont to give me. "Be strong of heart—be patient," she used to say. She told me of a young chief who was noted for his uncontrollable temper. While in one of his rages he attempted to kill a woman, for which he was slain by his own band and left unburied as a mark of disgrace—his body was simply covered with green grass. If I ever lost my temper, she would say:

"Hakadah, control yourself, or you will be like that young man I told you of, and lie under a Green Blanket."

In the old days, no young man was allowed to use tobacco in any form until he had become an acknowledged warrior and had achieved a record. If a youth should seek a wife before he had reached the age of twenty-two or twenty-three, and been recognized as a brave man, he was sneered at and considered an ill-bred Indian. He must also be a skilful hunter. An Indian cannot be a good husband unless he brings home plenty of game.

These precepts were in the line of our training for the wild life.

"Men grow old because they stop playing, and not conversely, for play is, at bottom, growth."

"The sentiments on which the highest religion rests are best trained in children on the noblest objects of nature."

—G. Stanley Hall.

CHAPTER IV

THE PLAYGROUND AS A PHASE OF SOCIAL REFORM

A. "THE CITY BOY"

We wish to introduce to you a strange creature. It resists classification and analysis. It has a tousled mat of indifferent colored hair surmounting a defiant freckled face. Water it abhors except in ponds full. When it comes in the house, chairs and bric-a-brac fall over, the limbs are too long for the body and the clothes are too short for the limbs. If it tries to talk the voice sometimes goes up and sometimes goes down. Taken all together it is not ornamental or particularly useful. The abode of civilization is no place for it. Its habitation is the woods and fields; its natural occupation hunting, fishing and fighting. It imagines itself an Indian and belongs to a tribe who go on plundering expeditions against its enemies. It wants to be a cowboy or a hunter and kill bears. A year ago this wild animal was a well-behaved, studious boy, a model in the school and the home; now we don't know what to call him. All the emotions of manhood are stirring and budding within the veins of this irresponsible boy. Before, he was a member of the family thinking what they thought was law; now he must find out for himself.

Nature at certain periods wishes her processes to operate free from outside interference. So at this time she puts up a fence and says to the parents, "hands off, you have had your time; the boy will not forget all the home teachings; now he is mine and I shall add certain stern, barbaric virtues of truth, devotion, strength, patriotism, loyalty and self-sacrifice which can be attained only by my method." If we were all living according to natural conditions we need take no further trouble about the boy, but while nature furnishes the instinct we take the boy out of his natural environment. Nothing is more pathetic than the lot of the city boy. He lives in a flat or tenement. He can't play in the house, and probably wouldn't if he could. There is no yard. If he plays ball in the streets, he is promptly arrested. Whenever he finds a vacant lot and fixes up a baseball diamond or a skating rink, in a few months a building goes up. All the while these instincts are surging within him demanding expression. No wonder he turns and demands his rights. If he is not furnished with a playground adequate for his needs he will make a playground of the streets and lawns of the neighborhood.

No truer heart beats than that under the jacket of the adolescent boy. He hates his enemies with a bitter hatred and loves his friends and worships his ideals with a fervor that exists in no one else. I am reminded of a circumstance in my own life. I was a "kid" myself not so very long ago

and got into a scrape at school; the offense was shooting off fire-crackers in the hall, with some others. They used to call us "the gang." It looked as if some of us would go home. One day at chapel after the matter had been investigated the father of the president arose and made a plea for the boys. He said, "Have you noticed a tadpole, with four legs and a tail? Now we can see no earthly use for that tail, but cut it off and the tadpole dies; that's just the way with the boy; sometimes we don't see the use of the fool things he does, but they seem to be as necessary to his life as the extra tail is to the life of the tadpole."

The playground people at Omaha have the right idea. They have done more for the money invested than any other city we know of. The following shows how their ideas have "soaked in:"

"Few prouder boys could be found anywhere in the country than those who were recently used by detectives in Omaha, to assist in the arrest of some train-robbers. One of the boys pulled a leather string from a pile of rubbish in a vacant lot, and found an automatic pistol at the end of it. He discovered burglars' tools also, and told the police. The police concluded that the robbers would come back to the rubbish pile to get their property, and had the boys play in the neighborhood, and keep watch for strangers. If any appeared one boy was to leave the game and telephone to the police station. The plan worked successfully, and those accused of the robberies were arrested."—*Youth's Companion*.

Mrs. Heller's paper, "The Playground as a Phase of Social Reform," tells Omaha's play philosophy. It is published in the *Proceedings of the Playground Association of America*, 1908. The following is a syllabus:

The City Boy—Heroism—Mischievous—"Just Done It"—"Getting Ahead Vibrations"—Parents Unable to Provide Play Facilities—Delinquents "Just Kids"—Normal Experience Gives Normal Boy—School and the Home—Pedagogues Good But Slow—Adequate Playgrounds Will Prevent Delinquency—Vice Can Be Conquered by Amusements—Constructive Value of Playgrounds—Playground City—Publicity—Constructive Play—School Gardens—Recreation Center—Dramatic Possibilities—Social Relations of Boys and Girls.

B. THE NEED OF ATHLETICS FOR GIRLS

BY MRS. CHARLES F. WELLER

Mrs. Charles F. Weller, who for five years was Head President of Neighborhood House in Washington, has the following to say in regard to athletics for girls:

More and more it is being realized that it is the girls who need the playgrounds, and that they must be influenced to attend in greater numbers. Everybody accepts playgrounds for boys, and the neighborhood thinks them quite the proper place for their boys, but, somehow, for girls, why, that's different. Now, if anybody needs fresh air and sunshine it is the girl between twelve and twenty years of age, but she is told that it is unladylike and immodest to run and jump and play generally. Sometimes she ventures on the playgrounds in a freshly laundered dress, plays ten or fifteen minutes with the result that the dress is again ready for the tub and there are more disparaging remarks about the playgrounds from already overburdened

mothers. Why not change the dress for the gymnasium suit while on the playgrounds? It will be found far more comfortable, economical and modest. There is, however, among the parents, an unreasonable prejudice against the gymnasium suit for girls, yet the same people who protest against the gymnasium suit for playground wear accept without protest the bathing suit for the public beach.

It is generally agreed, I think, that free but supervised play gives that joy and relief from restraint that is every child's birthright, physical relaxation and upbuilding, and moral development through good fellowship and a growing sense of fair play.

If this is necessary for boys, surely it is much more so for girls. Girls, much more than their brothers, are bound down early in life by the responsibilities of home, are restrained from action and self-expression by foolish conventionality, are trained early to be vain and self-conscious and are cramped and narrowed to the end by the straitened limits of their necessary activities and by the artificial bonds of senseless traditions. How many women of twenty-five have retained any of the liveness and elasticity of their childhood? How many can take long walks without exhaustion or keep strength and breath under control in climbing a slight ascent? It would be foolish to ignore certain physiological differences between men and women or to disregard individual weaknesses, but surely women are not a race of invalids who must be inactive and let their muscles soften with disuse. To women, as not to men, there come sometimes the crises when muscular strength and sounder power mean the enduring of suffering, mean even life itself. Surely the coming generation would be stronger and sounder if every woman would keep in active control her physical powers.

It seems evident that the hysterical enthusiasm for physical efficiency in women which showed itself a few years since, perhaps excessively at times, in the popularity of the "athletic girl" has already met the reaction. But must the pendulum sway back too far? Because boys have killed themselves by over-exertion during the late "Marathon Race," should we say, "away with athletics for boys?" It has been one of the jests of the ages that in the larger relations of life women are narrow, short-sighted and mean. Yet we know that where under modern conditions they have been given freedom and broadening influences, they have been a powerful force in philanthropic and civic movements and have exemplified in public life those qualities of sympathy and self-sacrifice that are the traditional virtues of the hearthstone. So, if, as has often been said, the playground is a force in developing citizenship, its benefits are needed most by the girl whose horizon may be narrowed some day by the close boundaries of her own home and whose opportunities for discipline through contact with many people and varying conditions may be but few.

Another fault that the literature of all ages has attributed to women is "vanity." Can we deny that the point is well taken? But whose the blame?

Has not society always taught girls to be self-conscious? Have not self-adornment and personal beauty ranked far higher among feminine than among masculine virtues? Many a girl borne down by false ideals flings her honor and her happiness on the altar of the God of Beauty. Were it not for the counteracting influence of that other one-sided tradition which puts social purity higher in the scale of conduct for women than for men, the number of girls sacrificed to this false standard would be much greater than it is.

For all these unhealthful influences there could be no better counter-irritant than wholesome, vigorous, self-immersing play. For girls whose lives have been cast in places sordid and impure, who have heard and seen and done much that it were well to cast out from their memories, no gentle, "ladylike" games, no dances, with their accompaniment of sense-stirring music, their calculated grace and studied pose has power to exorcise the demon that has possessed them. It needs active, vigorous play like a strong wind to sweep away the impurities and to drive out, for a time, the thought of self and the instinct for personal charm.

At a large reformatory one summer not many years ago, all the girls, to their unconcealed delight, were organized into baseball nines. They played, oh, how they *did* play! The very force that had made them defy society and transgress the law was turned into a masterful physical courage, so that they went down in the dust and struggled up again, fell and had determination to "still rise up and sail right onward." Scratched, disheveled, bedraggled, they were not beautiful to see. But the prettiest of them and the most sensual—for many of them were both—must have tasted for those few moments the purest joy of their physical being.

"One former is worth one hundred reformers."

—Horace Mann.

"We have no sense of responsibility in regard to the pleasures of young people and continually forget that amusement is stronger than vice and that it alone can stifle the lust for it. We see all about us much vice which is merely a love for pleasure 'gone wrong,' the illicit expression of what might have been not only normal and recreative pleasure, but an instrument in the advance of higher social morality."

—Jane Addams.

CHAPTER V

PLAYGROUNDS AND DELINQUENCY

A. PUBLIC PLAYGROUNDS AND JUVENILE DELINQUENCY*

BY JUDGE BEN B. LINDSEY

Judge Lindsey is the originator of the whole Juvenile Court system of the United States and has an international reputation as an authority on juvenile delinquency. He now presides over the Juvenile Court of Denver, Col. In connection with his court he has organized the Little Citizens' League, which puts boys on their honor, and whose records show that only three boys out of several hundreds have betrayed their trust. He succeeded in getting the Colorado Legislature to enact a law punishing negligent parents, employes, etc. He was the Democratic candidate for Governor of Colorado in 1906, and is the author of "Problems of the Children."—*Editor*.

The great majority of that part of our so-called criminal class who are caught and confined are from the youth of the nation. I believe that the police and the courts are concerned with the lawlessness of more than a hundred thousand children every year in the citizens of this country, and that means a million in each generation of childhood.

We cannot overdraw the picture of the increase in weakness and crime among the youth in the cities of this republic. It is not their fault; it is ours. It is largely due to that environment, to that condition that we have created. It is not pretended that any one remedy will suffice, but no one remedy proposed can be more serviceable than the public playground.

Perhaps the saddest thing in my experience is the cursing of heartless parents that I have heard from the lips of neglected boys and girls.

Christ said of him who would do an injury to one of these little ones that "It were better that a mill-stone be hanged about his neck and he be cast into the sea." We do an injury to these little ones just so far as we neglect to provide those agencies for their development and protection. Just so far as by lack of interest we compel our school boards to put fifty children in a room where there shouldn't be over twenty, deny a trade school to equip for industrial efficiency and a playground to equip the child for the advantages of the school and life beyond. It is no longer questioned that such agencies do more to prevent crime than jails, courts and policemen.

We must not encourage the parent to shirk. Starting in Colorado about six years ago we established a new offense in this country. It is called contributory delinquency or dependency. It is spreading all over this country. Under these laws the State is exacting of the parent, where the parent is responsible, a more positive responsibility for the moral and physical welfare of the child. The parent who shirks may be punished. Justice demands that this responsibility be extended to all persons who might properly share it. We may all become guilty just so far as we fail to strengthen those whom we have burdened with this responsibility. That strength depends upon our support of these agencies, such as school

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boards, park boards, etc., to provide the equipment necessary to give the child a square deal through the public playground and the school.

One obstacle to the public playground has been the cost. If the average citizen, if the average business man, if you please, would only wake to the fact that the most economic scheme for handling the problem of crime is that which prevents rather than that which at fearful expense is merely the engine to convict and punish after crime has become an established fact, we could make progress faster. Because the actual return in dollars is more or less invisible it is difficult for some people to see the necessity for public playgrounds. They have as little sense of real values as that boy whom I induced to go to Sunday school. He said, "It's a place where all the little kids go and give up a penny and don't get anything back." He was thinking of the substantial stick of candy he got at the corner grocery for that precious penny. When asked if he hadn't learned anything there he said, "I learned about angels, I did. I learned they had wings just like the chickens, but I didn't learn whether they laid eggs or not." One of the pitiful things of the past has been our confusion in dealing with the problem of crime.

Thomas Carlyle said there is a gregarious or sheep-like tendency in mankind to flock together and have a leader, and this tendency is first manifested in childhood. And this, of course, means the game—it means play. You cannot keep children from flocking together; neither should you. The responsible parent who thinks to solve the problem by keeping the boy away from his fellows is more likely to develop a mollycoddle or a milksop. He is frequently denied association with others, because that means the street. Let us provide a better place than the street for his playground. We want wholesome, vigorous citizens, with rich, red blood in their veins. They are to be recruited alone from our children. Let them mix with others, and learn to face and overcome the difficulties that come from the mixing, as well as to reap the joys and pleasures of the instinct to flock together, to play together. Our duty, then, is not to suppress, but to afford under the best environment the State can provide, the opportunity for wholesome association and helpful expression of natural instincts.

It is only the thoughtless and uninformed who indifferently wave aside these important problems with the suggestion that the children of the past did not require such consideration. It is no answer to our demand for the public playground to say that all that is needed is the occasional vacant lot for the boy in the city. It is as absurd as to argue that because the boy of fifty years ago on the farm in this country was not in need of child labor laws such legislation is not necessary under present conditions. Even this vacant lot, either with or without a trespass sign, is passing away with the old swimming hole. If it exists its joys are mingled with the terrors of the policeman, "Keep off the grass," the broken window, the grouchy neighbor and the dangers that come from the energy that is misdirected through suppression and lack of wise direction. Our plea for public playgrounds

is a plea for justice to the boy. We are literally crowding him off the earth. We have no right to deny him his heritage, but that is just what we are doing in nearly every large city in this country; but he is hitting back and hitting hard, when he doesn't mean to, while we vaguely understand and stupidly punish him for crime. Why shouldn't he rebel? The amazing thing is that he is not worse than he is.

Perhaps the boy needs to be taught where fun ends and the law begins, but his struggle for fun and adventure is met all along the line from the little seven-year old, who tries to reach the door-knocker of the neighbor's house, when the minister coming along lifted the little fellow up. He gave it a whang and a bang, and shocked the good man as he scooted down the street as hard as his little legs could carry him, only to turn and shout to his friend, "Hey, Mister, you'd better run like the devil, or you'll get caught." We must know where to meet this boy and how to understand him; and in teaching him where fun ends and the law begins we must have due regard both for his fun, his exercise, his bubbling energies and the law. I have found that when we do that he is the noblest little creature in the world. He is truthful, generous and honest. He will respect your rights even more than you respect his.

Three of the first culprits I ever tried were little fellows twelve or thirteen years of age. They had been captured by the police after a raid on the gang. In the center of the group stood little Dave, who made his tearful plea to the court. I said, "David, the officer says you are guilty of burglary." "But," said David, "I ain't no burglary." "Well," I said, perhaps you don't understand. You are charged with going into a box car and taking things that didn't belong to you." David was quite typical of the constantly suppressed youngster. He was forced to live in that district that is a part of nearly all of our large cities, known as the Bottoms. Through it comes the railroad tracks. A nice place indeed for the rearing of children. He was a typical, red-headed, freckle-faced boy, quite frazzled out at the elbows of his little coat and the knees of his trousers—and indeed some other places thereabouts—his stockings were down, and he dug his little fist into his tearful eyes, that had filled his face with rivulets of grime. "Judge," said David, "it's dis way. We lives down by the railroad tracks, we do, and we play among box cars, and the kids said there was watermelons in one of them; didn't they, Ikey"—as he appealed to the boy at his right. "Well," I said, "that wasn't any excuse for taking things that didn't belong to you"—as though the judge didn't know that fruit like that had offered temptation to other boys in other ages. "Well," continued David, "when we got in the car and didn't find no watermelons, Ikey said, 'gee whiz, kids, I'll bet there's something good in the car, for there was boxes in there that had figs painted all over them,' and Ikey said, 'Let's get something good anyhow'—yes, you did, Ikey, you know you did—and we got open the box and each one of us got out a bottle and it had figs painted all over it, too, and each one of us drunk

a whole bottle full, and"—to the accompaniment of tears and grimaces—"it was California fig syrup, and I tell you, Judge, we have suffered enough, haven't we, Swedey?" as he appealed now to the boy on the left, and Swedey chirped up in eloquent defense: "Sure we have, Judge, because I drunk two bottles," and I accepted the plea of David that they had "suffered enough." I thought so, too.

Of course it is a bad thing for the boys to be running on the railroad tracks. It is only a short step to stealing from the box cars and then perhaps from the corner grocery and finally to "tapping the till." Such is the progress of neglected childhood. A public playground will take care of that natural curiosity and disposition to play and do things, and would save the railroad companies thousands of dollars they spend annually to keep the boys in the cities from making their property their playground. I know a railroad official who told me that they had dispensed with one expensive officer in one district after a scheme of personal work and helpfulness through the public playground had been built up. It had directed into better channels the otherwise misdirected energies of these children. A gentleman in one city of fifty thousand told me recently that the sixty boys who had robbed the box cars within the short space of one month were furnishing his road a more serious problem than the question of railroad rates that was then pending in the legislature.

I once talked to a young murderer nineteen years of age. He was then in the shadow of the gallows. He told me his lawlessness started down among the railroad tracks where he went to play. It was a powerful magnet for curiosity when there was none other. And all this is aside from the wholesome character-building and the effect, both morally and physically, upon the average boy who has the advantage of clean well-directed helpful play that is now to be supplied alone in many cities through the public playground.

I know a city of less than three hundred thousand inhabitants in which there were over three thousand arrests among the boys in one year. I walked into one of the courts of that city and found the time of the jury, the judge and the counsel taken up in trying a boy of twelve for throwing a brick at a citizen. The next day I met the boy in the bull-pen amid hardened criminals. He had chains about his waist and knees. I asked the boy why he threw the brick. He said, "I never meant no harm, Mister; we was just playing." I saw the miserable shack and crowded district where he lived. Can the boy be blamed if he continued to throw the bricks? Could we be blamed if we shed a tear at the absurdity and injustice of it all? Can we be blamed if we turn from the act of the boy to cry out against the shameful criminal State?

This child is a wonderful human creature—a divine machine. We have much to expect from him, but he has much to expect from us, and what he returns depends largely upon what we give.

We shall suffer with him whether we will or no, for we do not share his

burdens. Let us not weary of the struggle till the child gets a square deal; and until he does, we cannot have and do not deserve that glorious manhood, that splendid citizenship that will come alone from duty done in childhood's sacred cause.

We of the children's courts are optimistic because we see, perhaps with clearer vision the most hopeful sign in this country. It is that awakened conscience of the State to its own responsibility for the child—that in caring for the child the State is simply caring for itself.

We have ceased in this country to question the duty of the State. It must provide free education and pass compulsory school and child labor laws and establish playgrounds, trade schools and juvenile courts, for the State suffers just as far as the child is ignorant or weak. We do not need more to emphasize our responsibility. This nation must take care of its children. From that duty it cannot and it shall not escape. It is only true to itself just so far as it is true to its children. *Denver, Col.*

B. RELATION OF PLAYGROUNDS TO JUVENILE DELINQUENCY*

EXTRACTS FROM ADDRESS OF ALLEN T. BURNS

Dean Chicago School of Civics and Philanthropy

The only inductive study ever made of the effect of playgrounds on juvenile delinquencies has been prepared by Mr. Allen T. Burns. It is one of the most valuable studies ever contributed to the playground movement.

This paper summarizes the results of the Chicago playgrounds as follows:

A small park neighborhood recreation center, such as those on the south side of Chicago, can be expected to be coincident with a 28½ per cent decrease of delinquency within a radius of one-half mile, conditions of the neighborhood in other respects remaining stable. To provide a probation district with adequate play facilities is coincident with a reduction in delinquency of 28 to 70 per cent, or 44 per cent as an average. In addition, over a much larger area, the small parks have a tendency to decrease delinquency 17 per cent. Remembering that the park areas made only a seven per cent better showing in the matter of successful cases than the rest of the city, it may be said that the small parks have been a greater factor in the prevention than in the reformation of the juvenile delinquent. For the playgrounds, the only indication of a helpful influence is the fact that in the long run and in the neighborhood very close to the playground, the children seem to be so developed that a decrease of delinquency results—a decrease of 24 per cent for such neighborhoods as compared with 18 per cent for the whole city. There was no way of measuring the effect of the large parks upon the decrease of delinquency. They did show a helpful influence in the successful treatment of delinquents, there being 46 per cent of successful cases within a one-mile radius. This is the same favorable showing of seven per cent, as made by the small parks in a one-half mile radius. Upon these figures is rested the case for the thesis that the presence of parks and playgrounds in a neighborhood is coincident with a decrease of cases of juvenile delinquency and with an increase in the proportion of cases successfully cared for by the Court.

A boy nine years of age was brought into court on a charge of stealing and committed to an institution for a short term. A year later he was again arrested for incorrigibility but left under care of the officer to whom he had been paroled from the institution. Three years after the second arrest he was again brought into court for incorrigibility and committed

*Reprinted from *Proceedings*, 1908, Playground Association of America.

to the institution where the less hopeful cases are sent. After his release his family moved from a neighborhood entirely destitute of recreation facilities to a location near Lincoln park which the boy has since used constantly to spend his leisure. He has improved sufficiently to be released from court and causes no further trouble. Such cases as this, of which many are found among the cases traced, indicate that the better showing of park neighborhoods as to successful cases is due in part at least to the parks themselves. Thus we have in the matter of successful cases a possible index of the park's influence such as we could not have where there was no opportunity to measure the decrease of delinquency in connection with the establishment of the park. * * *

But there are citizens who will think of the cost of the small park—\$220,000 to establish and \$29,000 per year to maintain—the cost of \$1.76 for establishment and 23 cents per year for maintenance to the property holder of \$10,000. Ten times these amounts for the South Side of Chicago. And this thoughtful citizen may add that the South Side's 29 per cent favorable showing represents only about one hundred bad boys saved. As a problem in "efficient democracy," I suggest that such patriots of the exchequer consider the cost to the public treasury of handling each case of juvenile delinquency. I hoped to be able to make such a comparison for Chicago, but the accounts of the county were not so kept as to make this practicable within the available time. I do not presume, however, that the cost of caring for delinquents would equal that of preventing them through the establishment of small parks. The approach of the former to the latter expense might be some solace to those who must make money the first consideration.

There is another point of view which maintains that no matter how great the cost, the value of the saved boy is inestimably beyond it. This point of view is suggested by that Master of practical life who knew full well the value of money, even of the widow's mite. For what shall it profit a city if it gain the whole world and lose the souls of its children?

C. PLAYGROUNDS AND THE GRAND JURY

The Philadelphia Grand Jury has made the departure, singular enough for a body of such character, of recommending the adoption of a general playground system for the entire city. The grand jury accounts for its taking the initiative by the explanation that playgrounds are essential for the prevention of crime among the young. The truth of this assumption is unquestionable. * * * The obligation to safeguard the morals as well as the health of the young is one which State and local authorities are alike bound to respect and the observance of which cannot be too strongly and persistently urged.—*Pittsburg (Pa.) Chronicle-Telegraph*.

"In dealing with the problem of crime in youth, we shall make progress just in proportion as we appreciate the absurdity of limiting our remedies to the court, the hangman and the jailer."—*Judge Lindsey*.

CHAPTER VI

THE NEED OF PLAYGROUNDS AND ORGANIZED PLAY IN RURAL DISTRICTS

MYRON T. SCUDDER

Headmaster Rutgers Preparatory School and Professor of the Science of Education, Rutgers College

Nothing is of greater importance to a nation than a contented rural population. A nation develops power in proportion as its people remain in large numbers on its farms and dwell there in comfortable prosperity. From these farming sections have come most of the best men and women of the nation, and it has come to be a truism to say that the country boy is a nation's most valuable asset. Undermine the welfare of the country districts; allow conditions of rural life to be such as to breed discontent and drive people away; destroy or even seriously injure this great reservoir of manhood, character and patriotism and you have a social condition which not only threatens the life of the nation, but if not remedied, is actually the beginning of the end of that nation's career.

Yet who does not know that we are menaced by this very thing that we dread? Far and wide the rural districts have been depleted of their population. The situation long ago became serious. In some sections there are not enough men to exploit the natural resources of the land. Churches and schools become less well attended, grow weak, and close. Things combine to work in a vicious circle; isolation and hardships drive many away and these isolations and hardships become intensified for those who remain.

Under these conditions, child life in the country frequently becomes peculiarly dull and unattractive; especially to adolescents. Nearly everything conspires to drive them cityward. It is well to have a large number of them go to the city, a very large number, but when practically *all* want to go, and so many go that the movement swells to an exodus, it is time to seek for remedial measures. House, church, school and local governing bodies should write intelligently to produce conditions which will make for contentment.

Fortunately, examples of notable efforts are not wanting. Life in many rural neighborhoods is being made far more rich and attractive than formerly. It would be interesting to consider the several elements which enter into the problem of securing a wider and better rural life, but attention can be directed here to only one, namely, the cultivation of the athletic and play life of country children which is making such rapid progress.

Country children need play just as much as do city children. They need it for its mental, moral, physical and social value. They need it because it makes for happiness, contentment and community spirit. They

need it because they do not coöperate well, because they are too strongly individualistic, because they yearn for the companionship which conditions in only too many cases prevent them from enjoying, because physically they are not, as a rule, well developed, not being able to meet even as successfully as do city children, the average athletic standard tests, such for instance as are prescribed for the Public Schools Athletic League. In all these respects play supplies the very training, discipline, and inspiration which these children most need: so its great importance to them can scarcely be overstated.

Yet in the face of this great need of theirs, we all know they do not play enough, while some have almost no play life at all. Except in places where special effort has been made to teach them, they know surprisingly few games. Moreover, their few games are strongly individualistic, training them for isolated effort, rather than for coöperation.

The country child would undoubtedly play more if conditions were more favorable. But they are not favorable to play. He does not know how to play or what to play; his parents are usually out of sympathy with play; and in the country schools not only are his teachers as ignorant as himself in regard to these matters, but even if the child and his teacher did know, the trustee in many cases would interpose objections and forbid any effort being made in the direction of organized play or athletics.

So here is where an earnest systematic propaganda is necessary. It would be well if country and village school teachers could receive instruction in that art of play, and ministers and other adults be enlisted in the cause of rural playgrounds.

Properly organized playgrounds and adequate opportunities for enjoying them will help check the exodus from the farms. Where these have been provided, boys have definitely decided to stay at home and farm it, instead of leaving for the city. This is not a vision; there are actual instances to support the claim. And the equipment does not need to be elaborated nor the opportunities laboriously abundant. A boy doesn't want to play all the time. Give him an occasional chance and he is happy. Let him have his play hours to look forward to and a great play festival once a year and the prospects, particularly of the latter, will brighten life for weeks and even months, first by eager anticipation, and then by the happy retrospect. Those who have had experience with play festivals in the country know what a tremendous power they become in the life of country people, young and old, how they check restlessness and quiet discontent by supplying the variety, the companionship, the mental and physical activity which are so ardently craved. Perhaps the chief benefit of play in the country will be found in its socializing influences, and in this respect alone it not only means greater efficiency of the individual but a more wholesome community life and eventually a stronger nation.

CHAPTER VII

THE PLAYGROUND AND PUBLIC HYGIENE

A. THE PLAYGROUND AS A FACTOR IN SCHOOL HYGIENE*

EXTRACTS FROM THE PAPER OF G. E. JOHNSON
Superintendent Pittsburg Playground Association

Scarcely twelve months ago the whole country was shocked by a disaster to school children in Cleveland so horrible in its details that men in distant cities wept in street cars as they read the account in the morning papers. * * *

During the coming year more than one hundred thousand children will end their young lives, the bloom of babyhood scarcely yet faded from their cheeks, and tens of thousands of Rachels will mourn for their little ones and not be comforted.

To those who rejoice in the living, Dr. Hutchinson's cheering declaration that "It isn't so very dangerous to be alive," will bring its reassurance, but to those who mourn for the dead, it will lend an added pathos. The unnecessary loss is the hardest to bear. And this loss, inconceivably great as it is, is largely within our power to prevent. For not only is it not so very dangerous for a child from five to fifteen to be alive, it is the natural and easy thing for him to remain alive—if he has a fair chance.

These are the years when the life forces are at the flood. It is as if Nature endeavored to repeat in each young life at this age the observance of the Passover and had sprinkled upon the gate posts of these ten hopeful years the sign of immunity that the Angel of Death seeing might pass by. We school men often congratulate ourselves that during the years that constitute the school age for the great majority of children are the years when the death rate is lowest. And yet the aggregate preventable loss through death in these most favored years is enormous and the sad processions that follow abandoned hopes to the grave outnumber in the aggregate the armies of the world.

But there is another and more serious loss than this. It is not the death rate during the school age, however great or small, that is the significant thing for us. The significant thing is whether in these years of Nature's smiles strength or weakness is being laid by for future years. We are learning more and more clearly every year that our skulking foe, the microbe, of whatever tribe, strikes when a man is down. Patiently he bides his time, gathering his forces in secret until the time to strike. No better illustration could be given than that of tuberculosis. According to Newsholme, only three children in 10,000 from five to fifteen years of

*Reprinted from HYGIENE AND PHYSICAL EDUCATION, May, 1909.

age, die of consumption, but from fifteen to forty-five more than one person in four dies of this dread disease. Speaking along this line, Dr. Tyler says: "It would seem highly probable that the increased death-rate of girls at eighteen and thereabout from consumption and other diseases of relatively slow action is the culmination of an attack begun at thirteen or fourteen. If we are to diminish this death-rate, we must fortify the girl against the period of greatest weakness when she is most likely to receive hospitably the germs of fatal diseases. To accomplish this we must not wait until the twelfth or thirteenth year, but meet the difficulty in childhood."

Huber, also, in his work on "Consumption" says: "There is the long period of latency in which, if the child be well nurtured and if he live hygienically, he will be likely to overcome such tendency to disease as he may have begun life with."

When at some future time posterity looks back upon the conditions that prevail in our day, it will behold no darker picture, no more disgraceful thing than our weak surrender of our children to sickness and death. What excuse can then be offered for the fact that even in this land, more than one-half of all the children born into the world die before they have reached man's estate; that seventy per cent of school children suffer some physical handicap, more or less serious, at the very threshold of life's opportunity; that our schools not only do not fortify the children against known enemies, but actually betray them, in their innocence to deadly foes.

AIR

The playground is the only place where a school child gets air in the proper amount and kind, the only place where he obtains full and complete aeration of the blood. A despicable fraction of school rooms have standard ventilating apparatus, and the rooms that have do not always adequately benefit thereby. I have personally tested a score of school rooms almost under the shadow of the capitol of a state that has the best of existing laws, and found the supply of air to equal the standard in only two of the rooms and in some it fell to less than one-fourth of that amount.

But could ventilation be perfect in a school room, there could not be the same aeration of the blood of a seated, studying child as of a child on the playground. There must be the exhilaration of joyous exercise, the strengthened pulse, the quickened, deepened breathing, the full chest of sustained effort that draws the blood to the very apex of the lungs, to meet the needs of the growing child. The school room may be made less and less objectionable, but so long as it remains a school room it cannot escape the imperative need of the playground as a factor in school hygiene.

As you well know, it is not only the lack of oxygen but also the presence of organic poison in exhaled air that makes ventilation so important. * * *

SUNSHINE

"Where the sun does not go, the doctor does," is an Italian proverb quoted by Kotelman. Try as we may, we cannot get the sun sufficiently

into all our school rooms, and if we could we would shut it out again as soon as we let the children in to study, because we say it hurts their eyes.

Where then shall the children bathe in the sunshine as they should, but on the playground? We do well to debar contagious diseases from the schools, but let fly over our children's clothing myriads of bacilli, while the most malignant perish in a short time in the joy and the sunshine of the playground. Few disease germs have been discovered that can survive even for one hour the streaming sun on the face of a laughing child.

You remember the experiment with the tadpoles. They were placed away from the sunlight for thirty days and during all that time ceased to grow. Returned to the sunlight, they resumed their growth and advanced farther in one day than in all the previous thirty. Placed once more away from the sunlight and then returned to normal conditions, they grew to stunted froghood. Just such an experiment, society tried with babies in the dark rooms of New York's tenements, and every baby, almost without exception, born and kept in those rooms, died. But when Jacob Riis smashed the windowless walls and the light of Heaven streamed in, the babies began to live.

In our cities and larger towns everywhere, we are still repeating, in a measure, the same experiment and place our children, like the unfortunate tadpoles, in darkened homes, narrow, shaded, and smoke enveloped alleys, and in school rooms into which the sun seldom or never enters. Nay! Often in school rooms lit even in the middle of the day by natural or artificial gas. Bring to these little ones medical inspection, examine their eyes, remove their adenoids, protect them from measles, and all the rest, but shall we not also provide a playground, where for a part of the day they may bathe in the sun as God Almighty has said they must, if they live!

EXERCISE

I have just examined the indexes of two famous books on school hygiene and in them was no such word as exercise. But exercise is life, and the absence of it is the sure sign of death. By exercise came evolution. Exercise shaped the body, determined the vital organs, built the brain. By exercise the child takes possession of his inheritance from the race. To him it is the past, the present and the promise of the future.

But that exercise no man can dictate, no teacher devise, no scholar fully define. It comes forth unbidden from the child, declares his nature, discovers him to himself, defines his relation to his mates, shows him the world. It is his play, it is himself. Can the school alone do this, be this? In the long process in which exercise shaped the body and built the brain there was determined for all time the path by which the child must come into his own. In that shortened process we call childhood, every faculty, every power, every organ that fails to receive its due exercise shrivels, health by so much suffers and by so much the man becomes less a man. It would require a book to speak in full of the exercises of the playground that meet

the needs of health, physical, mental, moral, æsthetic, social health, for all these are elements in the health of the body, as we all have come to understand. But in many respects, in the very nature of the case, these exercises are impossible in the school; they are possible only on the playground.

Once upon a time the people of a certain city really believed what I have just been trying to say, and when the question arose as to whether they should build a great public school or open a playground it was decided to open a playground. Now it came to pass, in the course of years, that the citizens of that city advanced so far beyond the rest of the human race, that in all the centuries since, the nations that have gone on building public schools and neglecting to open playgrounds have not been able to catch up with them even to this day. * * *

We have reversed the order of importance in education as it was observed by the Greeks. The Greek education was essentially a playground education and the education most nearly approaching it today is that supplied by the playgrounds of America. To that classic demonstration of the educational value of the playground has been added in our day an avalanche of testimony from biology, physiology, anthropology, psychology and sociology. Of the \$10,000,000 playgrounds of Chicago, Ex-President Roosevelt says: "They are the greatest civic achievement the world has ever seen."

TO SUM UP

First: We do not take good care of our children.

Second: We need to improve our care along four lines, namely, better food, better air, more sunshine, better exercise.

Third: In the very nature of the case the playground alone can adequately supply the last three of these to the child.

Fourth: This is no new experiment. We have the classic playground along with classic literature, architecture and art.

Finally: Just as we have awakened to the fact that the school provides but a small fraction of a child's education, that environment, which includes everything that comes into the child's experience is teaching him every waking moment of the day (perhaps every sleeping hour of the night, if we agree with Doctor Worcester), so we have come to understand that the activities of the school provide but a small fraction of the exercise necessary for the health of a child in this larger meaning. * * *

Not in the school but on the playground can these deep instincts of workmanship, imitation, rivalry, coöperation, find their true and genetic expression and build more stately mansions in the soul as the swift seasons roll. These instincts calling from the deeps of the child's nature are not voices calling him astray, or to delay his upward progress. They are the voices saying to him and to the race:

Build thee more stately mansions, O my soul,
As the swift seasons roll,

Leave thy low-vaulted past,
 Let each new temple, nobler than the last
 Shut thee from Heaven with a dome more vast,
 Till thou at length are free,
 Leaving thine outgrown shell by life's unresting sea.

B. EXTRACTS FROM "THE PHYSICAL DIRECTOR AS A HYGIENIST"

WM. W. HASTINGS, PH.D.

Physical education as a science is a department of hygiene. It is not an end in itself but a means to health and vigor. There is no branch of hygiene with which we are not concerned, no preventive agency which it is not our function to use. But we are naturally concerned more with personal hygiene than with natural and public hygiene; and of those subjects upon which we should be the most capable of giving competent advice—diet, rest periods and muscular activity are most vitally important. Upon these principally depend not only the organic vigor but the intellectuality and moral capacity of the child and the ultimate man. *Of the three, diet and rest periods are in a sense negative or passive and recuperative factors while muscular activity is positive, active and creative and hence most important, but it is an entirely mistaken perspective which would emphasize any one of these factors to the exclusion of another.*

Three years is the average length of time which we may expect to have with gymnasium members. *To cultivate in them during this time a half-dozen good hygienic habits is worth more to them in the long run of life than the whole three years of gymnastics.* Teach them how to eat, to sleep, to use the daily tonic of the cool bath, to dress loosely and with adaptation, to care for the eyes, and above all to make a hobby of some outdoor game or sport,—walking, running (cross-country), horseback riding, bicycling, golf, tennis, etc.,—to cultivate this habit the year round or, better, to ride some hobby according to the season and ride it hard. Let the seasonal scent of the air bring on the spell of golf clubs, skates or racket, as it does football, peg tops, marbles and baseball with the small boy. Fashions in gymnastics may come and go, but recreation must go on forever.

EXTRACTS FROM GYMNASIUM HANDBOOK

WM. W. HASTINGS, PH.D.

The human body is what we make it; muscle and nerve cells reflect the whole previous hygienic history of the man. Nutrition, strength of tissue, and organic function are the joint product of diet, exercise and other personal habits of life.

Modern conditions of living and of labor are responsible for a deplorable lack of organic vigor, especially among the people of our cities. This tendency to physical degeneration is due principally to the lack of muscular exercise involved in sedentary employments.

The best remedy for these conditions is to revert to man's normal mode of living out of doors.

C. HYGIENIC VALUE OF THE SWIMMING POOL

EXTRACTS FROM SUGGESTIONS FOR CHECKING RACE DEGENERACY DUE TO THE CONDITIONS OF SCHOOL LIFE*

DR. J. H. KELLOGG

Superintendent Battle Creek Sanitarium

The wearing of clothes is as unnatural to human beings as dwelling in houses, and the evils growing out of house-dwelling, and smothering the skin with artificial coverings must be antidoted by such means as are afforded by the swimming pool and the outdoor gymnasium. I know of no single measure by which so much good can be accomplished as by these. Swimming in water at a proper temperature (75 to 78 degrees) is the most admirable of all developmental exercises. The position of the body is such as to give the lungs the greatest freedom of movement, and all the muscles of the trunk and limbs are

*Reprinted from *Hygiene and Physical Education*, May, 1909.

brought into active exercise under the most favorable conditions. The temperature of the water both stimulates and facilitates muscular movement and cardiac activity. *There is no other form of physical exercise from which so much benefit may be derived in so short a time.* A half hour in the swimming pool two or three times a week and an hour with the skin largely uncovered in an outdoor gymnasium every other day during the warm months will work wonders in building up a good physique and developing those functions of the body which prepare it to offer the highest resistance to disease.

Provision should be made in connection with every school for instruction and practice in swimming, both summer and winter; and properly equipped outdoor gymnasiums should also be provided for both sexes in which a considerable part of the body's surface may be exposed to the air and the sun. Man is naturally an outdoor animal and requires the advantages to be derived from contact of the fresh air and the sunshine with the skin surface as much as does the gorilla, the chimpanzee and other animals akin to man in their physical structure. Facilities of this sort may be provided at moderate cost, and the expense should not be at all burdensome even in country districts, especially if the present movement for the consolidation of country schools proves successful.

D. GOOD HEALTH AND GOOD GOVERNMENT*

At the third Play Congress in Pittsburg Congressman Burke said in part:

Good health promotes good government, and good government likewise promotes good health.

When the health of the individual becomes impaired through the neglect of his physical necessities, he forfeits much of his force in sustaining and developing human society. The man who has never cultivated his mind or body, or having developed them, has subsequently destroyed them through neglect or abuse, becomes as a consequence, and to the extent of that destruction a figure without force in human affairs.

Good health is therefore one of the essential attributes of every rugged unit of civilized society.

Man was created to do useful things for his fellow men. In placing him here, God intended that he should toil by the sweat of his brow, in order that he might accomplish the high purpose of man and enjoy the pleasures that endure.

He was not placed here that he might prove indifferent to or neglectful of the persons and things by which he was to be surrounded. He was intended to be useful to himself and helpful to others.

While all things of man's creation decay with neglect, there is nothing in art or nature that fails as fast and as certainly as man in idleness, and as his energies are destroyed or his faculties undeveloped or impaired by ignorance of or indifference to the ordinary laws of sanitation or sane living during his childhood, or in his mature years, to that extent does indolence upon his part become natural, and to the extent of his idling is his usefulness and value as a citizen impaired.

It is therefore important that in so far as the government has the right to interfere in the regulations of the affairs of the individual it is not only proper but important that it should by every means within its power encourage the adoption of methods that will promote and protect the health of the citizens. It is quite as important to prevent the development of disease by encouraging young and old to enjoy the blessings of the open air and sunshine and the good health and high spirits that result, as it is to destroy disease, once it has developed.

While the scientific world is busy with the development of cures, it is equally essential that the social world should be busy in the development of all forms of prevention of those evils which result in the breaking down of the mental and physical structures of the people.

With the rapid increase of population in our great cities, these questions are impressing themselves upon us with greater force from day to day, and these alarming factors are not confined alone to this country, but are developing elsewhere with alarming rapidity. It is only a few years since the Inspector General of the English army said, "The one subject that causes anxiety for the future regarding recruiting is the great deterioration of physique

*Reprinted from *Hygiene and Physical Education*, August, 1909.

of that class of our people from which the bulk of the recruits for the army must be drawn. Were all classes to provide their offspring with ample food and air space, a healthy race would be produced and the proper material to fill the ranks of the army would be obtained."

In 1853 the standard of height in the English army was five feet, six inches; in 1883 it was reduced to five feet, three inches; in 1900 it fell to five feet in stockings.

A similarly alarming shrinkage in chest measurement was shown. 511' out of every 1000 measured 34; which was less than the minimum chest measurement in 1883.

In weight one-third of the whole army fell short of the 136 pounds required a generation before. In 1900 the average British recruit at the age of 19 was two inches shorter, and one inch smaller around the chest, fifteen pounds lighter than the normal Anglo-Saxon youth of that age ought to be. Fifty per cent of the London youths were rejected as unfit even after the standard had been lowered. Of the 11,000 young men examined in Manchester, 8,000 were rejected for want of stamina and defects. In 1903, 81,000 British soldiers were discharged as unfit for duty after less than two years of service and were discharged as invalids.

And to a very large extent were the crowded conditions of great England held responsible for the decrease in the physical standard. In a recent article by Ralph D. Payne, he states that the conditions are no better in the smaller cities of Scotland than they are in London, where 300,000 Londoners live in one-room tenements with three or more occupants.

In order to provide vigorous recruits for her army and to strengthen the foundations of the empire, Germany prevents the overcrowding of the slum districts in her cities by a system of wise far-sighted legislation. In Berlin the housing conditions of the poorer classes are regulated and when overcrowding occurs, a new outlet for population is found by the city, which constructs the streets and sewers and maintains the practical coöperation by builders by methods mutually satisfactory. No German town of any note is without a generous playground and recreation center for its people.

In this country the housing of the people and the questions arising out of centralization of population are growing in importance with each day. A century ago only four per cent of the American people dwelt in town, while in 1900 more than thirty per cent resided in the towns and cities of the nation.

Many believe that the strength of the nation is enhanced by the fact that almost one-half of the 90,000,000 are still living on the farms and engaged in pursuits that keep them close to the soil and in vigorous out-of-door exercise.

The Federal Government and the government of many states have recently established a system of investigation pertaining to the health of the people, and vital statistics are now gathered with reference to 44,000,000 of our population, and each year this system is growing. When is it perfected, it will afford a great impetus for the intelligent conduct of the work to be done by the various branches of the government in promoting the health of the people. For the time being, certainly, no work in progress is more important or is affording more pleasure to those concerned and better results to the nation, than the work of the Playground Associations of this country.

The greatest things for a nation's advancement are those which the whole people accomplish and the establishment by the government of recreation grounds, which will be accessible to the multitudes will not only promote wholesome enjoyments, but aid materially in promoting the health and happiness of mankind.

E. ONE MILLION PUPILS DOOMED

NEW YORK, July 14.—On the basis of recent investigations the National Association for the Study and Prevention of Tuberculosis declared, in a statement issued today, that the United States is paying annually \$7,500,000 for the education of children who will die from tuberculosis before they reach the age of eighteen. There are nearly 1,000,000 school children in the country today who will die of this disease before they are of age.—*N. Y. Witness*.

(This society has commended playgrounds as being the best means of preventing tuberculosis.—EDITOR.)

PART II

PLAYGROUND ARCHITECTURE AND LANDSCAPE GARDENING

CHAPTER VIII

THE PLAYGROUND BEAUTIFUL

BY ARTHUR LELAND AND LORNA H. LELAND

Playground Architects

A. NEED OF BEAUTIFYING PLAYGROUNDS

It had never occurred to us that any defense for beautifying the playground was necessary. We had always supposed that the reason why many of them were not beautified was on account of lack of money rather than absence of desire. Of course, the first essential of a playground is that it should make provision for play; after this end is accomplished it should be beautified. Play purposes will not be decreased by making things as beautiful as possible. In fact no playground should be entitled to the name which does not provide for the pleasure of the eye. Fences are necessary; why should not hedges or vine-covered fences fulfill the purpose rather than the unsightly board fence or expensive wrought iron picket fence?



LITTLE CHILDREN'S PLAYGROUND, TRIANGLE PARK
Louisville, Ky.

The first playground we ever saw was Columbus Ave., Boston, which at that time was a desolate waste of cinders without a tree or speck of green upon it. Our impression was that if we should be obliged to play there it would have to be under compulsion, especially so if the country was within ten miles walking distance, but that may be because we were raised in a

small village, and that most of our early recreation time was spent in the woods.

The purpose of play and landscape gardening should be to foster in the child the love of nature and the beautiful. The form which seems best adapted for this purpose is informal gardening or wild gardening.

Æsthetic taste has a true commercial value for a manufacturing community. W. T. Harris, speaking of this says:

One will concede at the first that tool work is valuable as industrial training, for it teaches us to manufacture tools and machinery for the performance of all kinds of labor.

The study of natural science is still more valuable, especially in its application to mathematics and the laws of matter and motion. It furnishes the theory of all machinery and of all production of supplies from nature.

Besides this we claim that general education is of the utmost importance, opening as it does the powers of thought and observation.

Æsthetic education, the cultivation of taste, the acquirement of knowledge on the subject of the origin of beauty, the practice of producing the outlines of the beautiful, all these things we must claim form the true foundations of the best success in the industries of any modern nation. The dynamic side is needed, but the invention of the useful does not succeed in controlling the markets of the world. A nation with graceful shapes to its productions commands higher prices for them. A graceful shape and the proper ornamentation charm the purchaser and he willingly pays a higher price for the beautiful article of usefulness made by an artist than if it is made by the mere artisan.

"On another occasion I have called attention to the backward state of Swedish education in the æsthetic art. Sweden is the leader in the manual training movement, but her educators have not yet seen the importance of developing correct taste among the laborers as a condition of industrial success. Accordingly we find that ingenuity is increasing to some extent in that country, but that there is no improvement in the artistic finish and ornamentation of their goods. Clumsy shapes and incongruous ornament are the characteristics of Swedish goods. Other nations do not want such ugly shapes in sight and do not buy them. To have ugly utensils perpetually in view generally works degeneration in one's tastes."—*From Educational Report, 1904, pages 1133-1136.*

Figures from our commercial reports show that we import raw materials from Sweden, but that we do not buy their manufactures. In 1881 the imports from Sweden and Norway of raw materials amounted to \$744,018.00, but of manufactures of iron and steel, \$111,749.00 were reported. We imported wood manufactures from them only to the amount of \$137.00, but we imported rags for the paper manufacturers to the amount of \$39,000.00, but no manufactured clothing to speak of. The same year Belgium sent us wood manufactures to the amount of \$118,146.00.

Prince Albert in 1851 became convinced that the English manufactured goods were not of a character to compete with those of France and Belgium. So he set in motion a deep-reaching system of art education that should correct the national defect and recover the prestige of British manufactures. General instruction was given in the forms of ornamentation which the world considered beautiful. From this time began a gradual rise in the taste of the English workman; from being an artisan pure and simple, he began to be an artist. England has gone forward rapidly in the production of works of taste.

Taking the hint from England, we have in our country paid considerable attention to the cultivation of art education.

The days of poverty must of necessity be satisfied with the useful without ornamentation even though the poor desire it. As progress in wealth advances the æsthetic is demanded. If the country is to keep its prestige in the markets of the world and especially if we wish to handle the fancy trade, every possible effort must be made for the cultivation of the æsthetic taste of our workmen.

Beautiful surroundings are as important, in fact are more important for the cultivation of taste than is special art education. If we make our playgrounds and cities beautiful the children will become accustomed to the beautiful, will demand the beautiful, and will copy and produce the beautiful.

B. IMPORTANCE OF A COMPREHENSIVE PLAN

When commencing the construction of a playground the first thing that should be done is to draw up a comprehensive plan of development. Not only should the playground be planned by one who has the knowledge of shrubs and trees but it is necessary to have the work laid out by one who is intimate with playground needs. Most of the playgrounds in our country are rather badly laid out and much money is wasted in changing them; for instance, two playgrounds in Denver were laid out in such a way as to make it impossible to play baseball on the block, whereas with a little more careful planning it would have been possible to have accommodated three times the number of children in a much more effective and beneficial way, on the same grounds. The apparatus is often set up in the wrong place and improvements are not projected with reference to the future.

The North Denver playground illustrates this. It is on a side hill and the gymnasium frame was put on the top above grade. It occupied the only level spot on the block large enough for baseball. Of course the boys who had been playing baseball were much more interested in their own game than in an "old open air gymnasium" fit only for the use of "de big guys." Also the placing of this equipment here covered up the dirt which was necessary in order to fill the lower part of the grounds. The playground was so small and the street grades were such that it was impossible to grade it in terraces without going way below the street line. This made it necessary to lower the upper end and raise the lower end as described under the article on construction, pages 109-115.

The extra expense entailed in the erection of the apparatus, taking down, and re-erecting in the proper place, together with the damage done by the children was probably about five or six hundred dollars to say nothing of the hard feelings.

When contemplating the placing of a playground in a new neighborhood the first thing to be done should be to study the "kids" in the neighborhood and see what they want. There is considerably more to a playground than teeters and see-saws and gymnastics. If we don't give the children what they want they won't come and we don't blame them. It takes considerable of a playground to compete with the excitement of the street. We can't make the children take what we think they ought to have. They may not want just what they ought to have. We have to compromise and give what they will take and later add what they need.

The first thing one "playground" (?) did was to destroy the playground the children already had and as very little supervision was given, those boys were the "sores bunch of kids" imaginable. It was reported to us that they whittled points on the handles of the teeter ladders, cut the ropes, and raised havoc generally so that the neighbors were continually making complaints. One of the boys asked us, "Be youse going to leave the little punks on the playground this year?" On being questioned as to what he meant he stated that "last year there was a big man stood at

the gate and didn't leave none of the little punks in." We later learned that they didn't have enough money to have the ground supervised all the time. We think that if not enough money is available for supervision, grading and equipment the supervision should come first, then the grading and then the equipment, and after that the playground can be made beautiful. But a comprehensive plan and an expert estimate is absolutely essential in order to know what to do and what not to do.

CHAPTER IX

A. THE DEVELOPMENT OF PLAYGROUND LANDSCAPE GARDENING AND ARCHITECTURE IN THE UNITED STATES

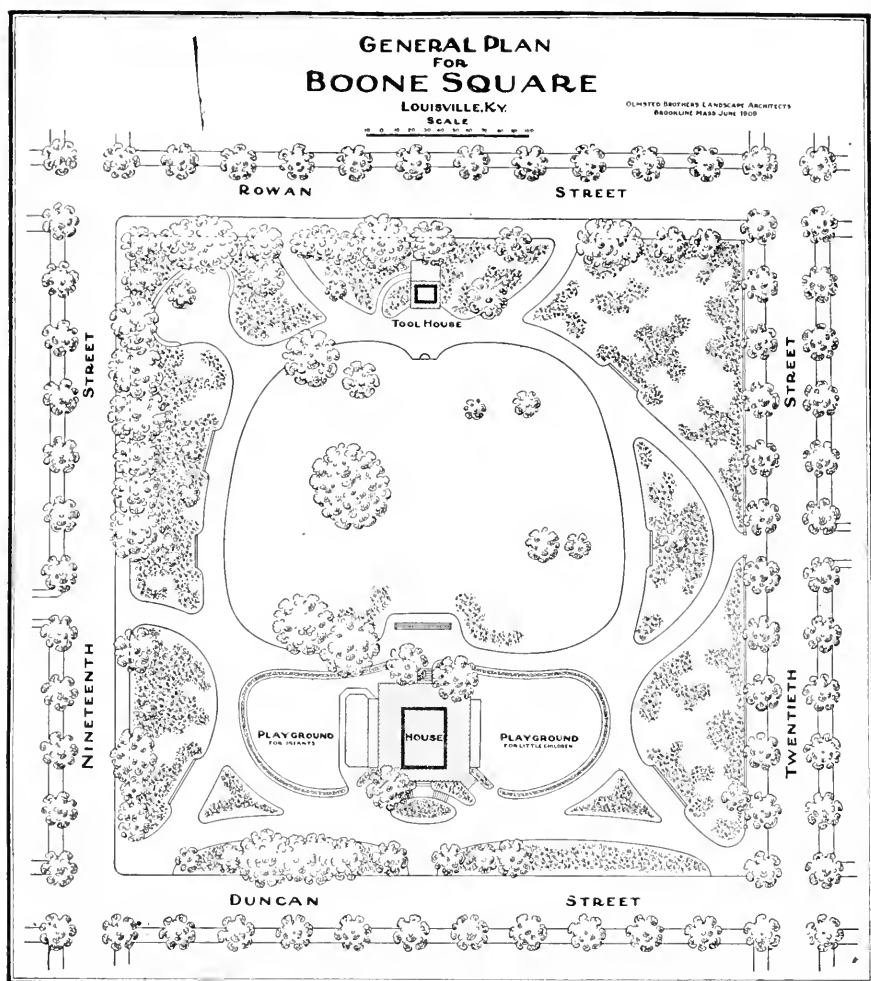
The forces which have contributed to the development of beautiful playgrounds have been the same as those which have led to the development of parks. With our English and German traditions we have inherited the love of nature and the beautiful in nature. England has always had sport fields and parks. So naturally the villages of New England had their commons with baseball and football fields which were used also for the pasturage of cows. It has always been their inalienable right for all children to play upon these commons.

1. THE SPORT FIELD. Our park movement and our playground movement so far as they are concerned with "sport fields" have a common origin. As the towns grew into cities it was found necessary to adapt these parks to use, and throughout the whole country the majority of the cities maintained parks with facilities for athletics which might be termed "sport fields." Located in parks of course they are in the beautiful surroundings made possible by landscape architecture. Boston has been the leader in the sport field movement.

2. THE GENESIS OF THE OUTDOOR GYMNASIUM. Two factors led to the combination of the park and the outdoor gymnasium into the playground or recreation park. First, the development of gymnasiums and facilities for physical training. There seemed to be a need for exercise out of doors. Second, the maintenance of small parks in thickly crowded sections of the city is a very serious problem. Feeling that they had a solution of this problem the Boston Park Board secured the coöperation of Dr. D. A. Sargeant, who had not forgotten when he was a boy and he designed some gymnasium apparatus, appropriate for outdoor use.

A well known landscape architect was secured to add the beautifying and the Charlesbank Playground was a reality. This was the beginning of the æsthetic development of playgrounds in this country. There was an open air gymnasium for men with a running track at one end, then came a little interior park such as had been common all over the city, having the usual landscape features found in such interior breathing spaces, with walks,

Another portion of the ground was designed for small children and contained a sandbank under a vine-covered arbor, a number of swings



and a band stand. Both of these play spaces were surrounded with iron fences covered with roses and part of the grounds were laid off in a large open lawn surrounded by macadamized walk with shrubbery and trees placed in appropriate places. Outside of the walk, between it and the street, shrubbery was planted. About this same time in Louisville two other very small playgrounds were laid out. They could

hardly be called playgrounds. They were at the intersection of two streets, and contained a fountain and benches, and shade was obtained by covering them with vines. They also contained play facilities but were soon dismantled because they were not properly policed and became a loafing place for bums. Boone Park Playground in its construction very nearly approached the present idea of Recreation Park, emphasizing as it did the playground rather than the open air gymnasium. It was a small interior park with facilities for play. It, however, lacked the proper amount of supervision and it had "Keep Off the Grass" signs in the large central grass plot, but in all the essential features except that of supervision by playground instructors rather than by park guards it was a modern playground.



Courtesy of Lafon Allen.

WADING POOL IN TRIANGLE PARK
Louisville

The artistic shelter cost \$3,000. It has large play room and toilets

4. THE MODEL PLAYGROUND, TRIANGLE PARK. In 1899 the Park Board commenced planning a model playground for Louisville. It was laid out in two parts: a large grass-covered athletic field surrounded by a macadamized walk, and a playground for small children with a wading pool and with an artistic little shelter house.*

5. FIRST WADING POOL OF THE COUNTRY IN SMALL PARK. So far as we know this was the first wading pool in the country to be installed in a small park. The children's playground had a shelter house which contained toilet facilities and a central play room surrounded with a wrought iron picket fence. Around the outside of the playground next to the street were planted different varieties of hardy shrubbery and trees were located at appropriate places. This playground was two years in construction being completed in 1900. It cost exclusive of the land about \$55,000.00 for those two years. It was placed in charge of a park guard.

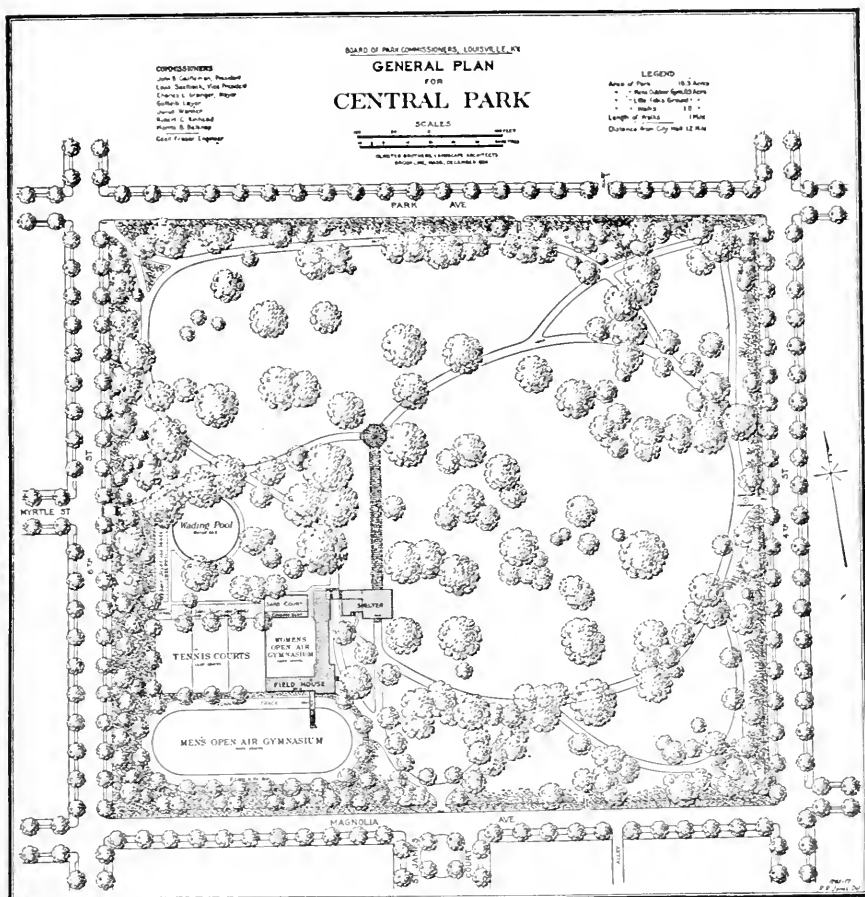
*See plan, pages 66, 67.

6. CENTRAL PARK. The Dupont estate, a large private residence and park, had been carried on by the Park Board as a public park for several years. It was located in the heart of the residence district of the city, with the foreign population of the "Cabbage Patch," several blocks distant on one side while the other side of the estate fronted upon the finest residence street of the city. It comprised a tract of about fifteen acres thickly covered with an old grove of elms and other shade trees. In 1900 a referendum was prepared that asked that the city issue bonds for ninety thousand dollars to purchase this estate to be used as a public playground. The Recreation League which had just been formed to agitate playgrounds



THE TENNIS COURTS
Triangle Park, Louisville

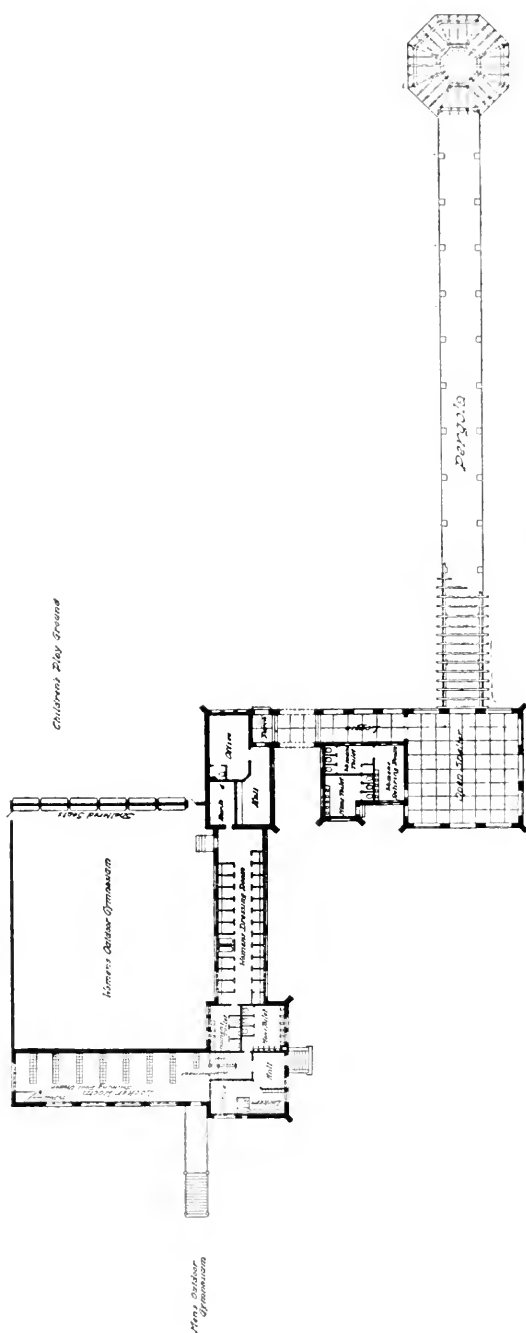
used the school children in securing the passage of the referendum. The street car companies gave free passage for the children to the park on the day before election and a gigantic mass demonstration was held. This, so far as we know, was the first instance in which the school children have been used in securing playground votes. The scheme worked beautifully and the voters consented to the issuance of the bonds. Several years were required for the supreme court of the State to pass an opinion on the legality of this action. Finally the bond issue was declared legal after several years' delay and the outdoor gymnasiums and buildings indicated in the illustra-



tions were erected. For several years before these improvements were put in, this park formed part of the playground system which was inaugurated in 1901.

7. **THE MODEL SMALL PLAYGROUND.** In 1901 Louisville laid out another small playground about two acres in extent, Baxter Square. This also had a large wading pool, a small central grass plot, macadamized walk around the outside and shrubbery between that and the street. An iron picket fence was placed around the outside. This ground also was placed in charge of a park guard, and was intended for the small children only.

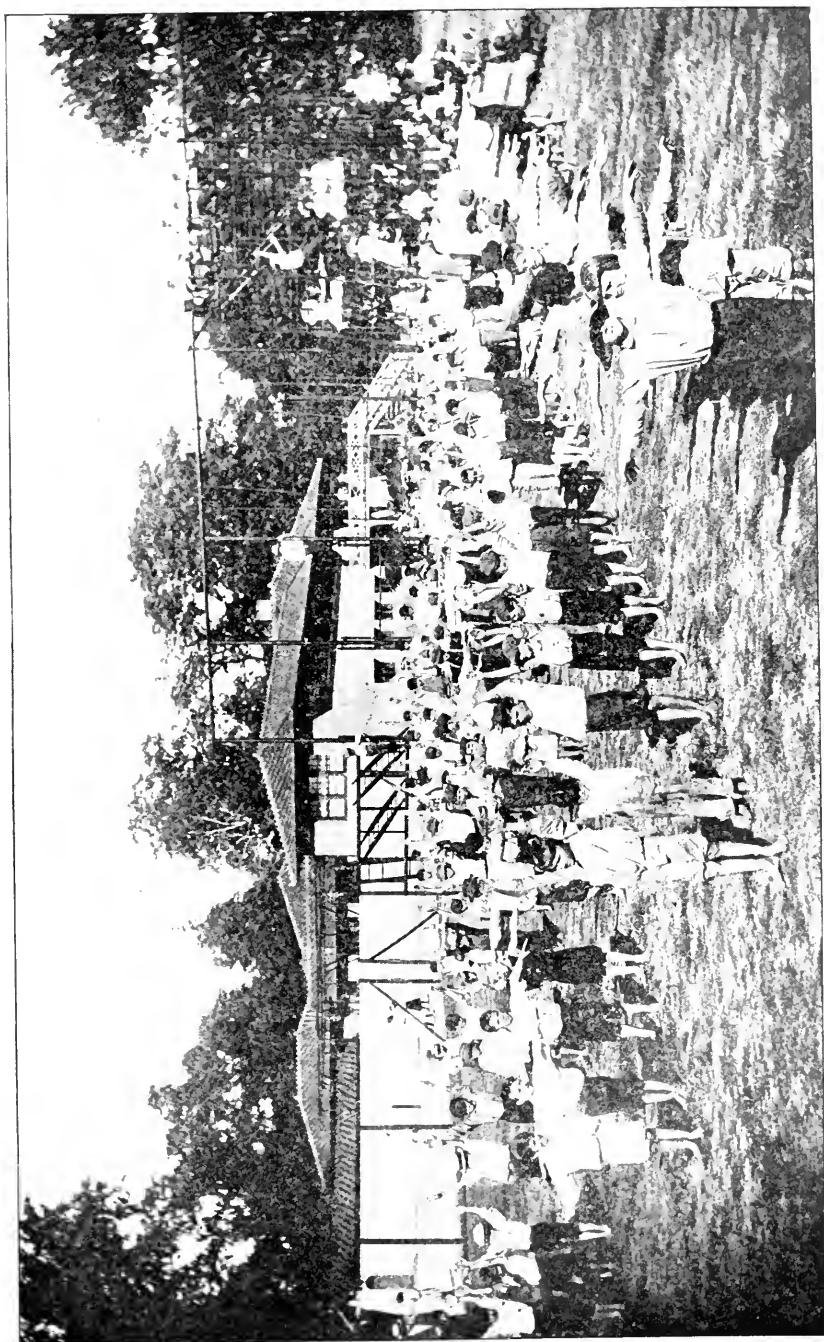
8. **A SYSTEM OF SUPERVISED PLAYGROUNDS.** In 1901 all of these small parks were opened up as "really and truly playgrounds" with a man



Floor Plan
of
Field House at Central Park
Louisville, Ky.

Scale 1/4" = 10' - 0"

Attention is called to the fact that under the main Locker Room is located the Swimming Pool. The Locker Room is connected by a bridge with the main athletic field



CLASS IN BOYS' GYMNASIUM, Central Park
Neighborhood Club House in the background

Courtesy of Tufon Allen

and a woman instructor at each ground six hours a day and with a park guard on the grounds all the time. The "Keep Off the Grass" signs were pulled down, the children were allowed on the grass and conducted organized plays and games six hours each day. At the expiration of the six hours they were sent off the grass but could spend the rest of the time on the walks or using the gymnasium apparatus. Simple playground equipment such as swings, ladders, see-saws, sandboxes, basketball courts and lawn tennis courts were provided.

The whole system was in charge of a trained supervisor who directed the work of the various assistants. With the exception of New York, and possibly Chicago, we think that Louisville was the first city to employ a general supervisor of playgrounds, and Louisville was also the first city in the country to have all of its playgrounds maintained under one organization.

9. PHILADELPHIA: THE JOHN DICKINSON PLAYGROUND.* So far as we have been able to discover after Charlesbank the next playground approaching the modern idea and including æsthetic features was the John Dickinson Playground, Philadelphia. This playground was open to the public in 1898. It consisted of a city block which was surrounded with a border of trees with a large open field in the center and with a building for men on one side of the grounds and with one for women and children on the other. The features of the playground equipment were mostly of a gymnastic nature such as were to be found in the Charlesbank Gymnasium.

On account of lack of supervision and defects of construction, for example the walk around the playground was made out of marble dust which became finely pulverized and was blown all over the neighborhood by every wind that stirred, this playground received very severe criticism on the part of the neighbors, for the marble dust became very obnoxious. On account of lack of fences and supervision the playground was, I believe, closed up, and the sad experience gained therefrom has delayed the playground movement in Philadelphia very greatly, and has hindered the development many years.

10. NEW YORK. The Park Playgrounds in New York have always partaken more largely of the nature of outdoor gymnasiums and sport fields combined than of recreation parks like those of Chicago and Louisville. The first of these, Hudson Bank Gymnasium and Playground, was opened in 1898.

*For an account of this Playground see Article by John H. Chase, *Playgrounds*, November, 1908-January, 1909.

11. CHICAGO. "In 1896, under the auspices of the University Settlement of the Northwestern University, a large and splendidly equipped playground was opened which would accommodate from three to four thousand children." The expenses for this work were paid by several gentlemen who desired to furnish an object lesson to the city. "Numerous swings, large and small, giant strides, see-saws, sand piles, etc., afford ample amusement for the children, who fairly swarm here. There is also a large shelter provided with plenty of benches and with a retiring room. A police officer, who is a father to the boys, and a matron have the charge of the grounds. The police in the neighborhood are much interested in this venture; in the spring they planted six trees in the grounds," showing their appreciation of the work. So far as we have been able to find out this is the first instance of beautification in a Chicago playground.

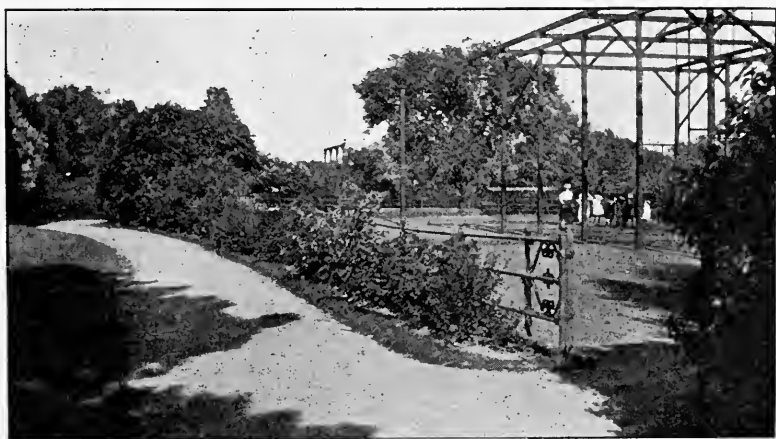


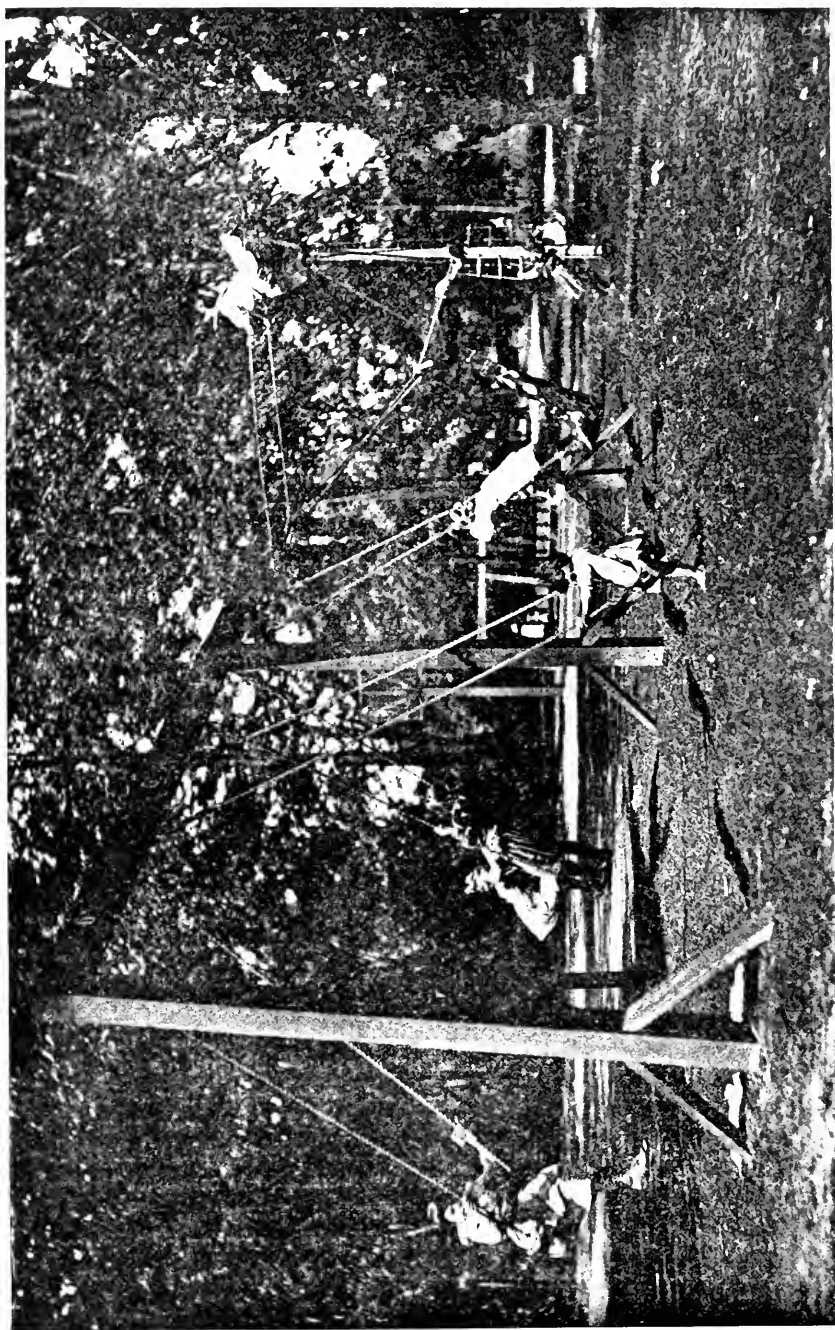
Photo by Charles Mulford Robinson

EVEN THE OUTDOOR GYMNASIUM MAY HAVE A PLEASANT SETTING

Of course, Chicago, in common with the other American cities, had its public parks with sport fields in them.

When the South Park Commission conceived the idea that their parks should be useful as well as beautiful, the Playground Beautiful arrived at self-consciousness. For a full description of this system of parks see Chapter X.

12. ST. PAUL PLAYGROUNDS. St. Paul in 1904 attempted upon a very meager appropriation to follow the example of Louisville (see Chapter XIV).



"WHO CAN TOUCH THE BRANCHES?"—Brown Square Playground, Rochester

*Courtesy of Children's
Playground League.*

13. CANANDAIGUA, N. Y. One of the best examples of playground landscape gardening is shown at Canandaigua, which is described by Charles Mulford Robinson, Ph. D., in a paper "Landscape Gardening for Playgrounds," which was reprinted in the *Proceedings, 1908*, of the Playground Association of America. In this article, Mr. Robinson tells in detail the reasons for making playgrounds beautiful, suggests some methods of landscape gardening including beautification of play space. He suggests shrubs, vines and flowers adapted for use. This paper is a very valuable contribution to the subject.

14. ROCHESTER, N. Y. Brown Square playground, located in one of the Rochester parks is a Recreation park similar to those at Louisville. Shade and grass combined with supervised play are here united.

CHAPTER X

THE RECREATION PARKS OF CHICAGO

BY HENRY S. CURTIS

1. ORIGIN. In 1903 an amendment was made to the Park Act enabling the South Park Commission to issue bonds for the purchase and equipment of ten new parks. These were laid out with all the æsthetic features ever seen in any park in the country and with every variety and sort of recreation feature. The following by Dr. Curtis is a characteristic description:

2. DESCRIPTION: THE SOUTH PARK PLAYGROUNDS. No one can see the new system of parks and playgrounds in Chicago without a feeling of admiration and wonder at this magnificent civic enterprise. Taking all in all and considering the magnificence with which it is planned, the great number and variety of new features which have been introduced, and the rapidity with which it has been accomplished, this seems to me one of the most remarkable undertakings that has been carried through by any Commonwealth.

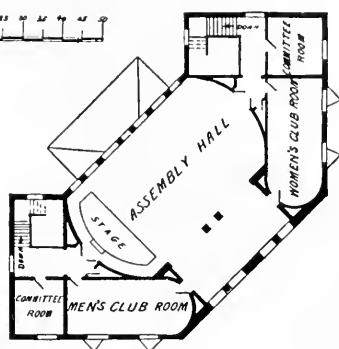
3. MANNER OF APPOINTMENT OF COMMISSION. The South Park Commissioners, appointed by the judges of the circuit court, and thus independent of politics, have always been men of the highest ability and integrity. The actual supervision of the parks and playgrounds has been in the hands of Mr. J. Frank Foster, a man of tireless energy and unusual ability, for the past twenty-seven years. He has had the same freedom in making appointments and discharges that a man has in his own private business. South Park is a separate taxing body and levies a tax of two mills on South Chicago for the support of this park system, so that it is independent of the city both in its officers and its funds. It gets its appropriations directly from the State. It has a separate police force, a separate water system and is now installing a separate electric light plant. This form of organization has doubtless added to the efficiency of the system, yet, the new South Park System still remains a work of almost inexplicable genius.

4. COST. A little more than two years ago it received \$4,000,000 for small parks and playgrounds. Since that time it has received \$2,500,000 additional, West Park has received \$3,000,000, and North Parks \$500,000, making \$10,000,000 in all. This increase of \$6,000,000 over the original appropriation seems to show that Chicago believes in her new system, and is ready to tax herself for its support and increase.

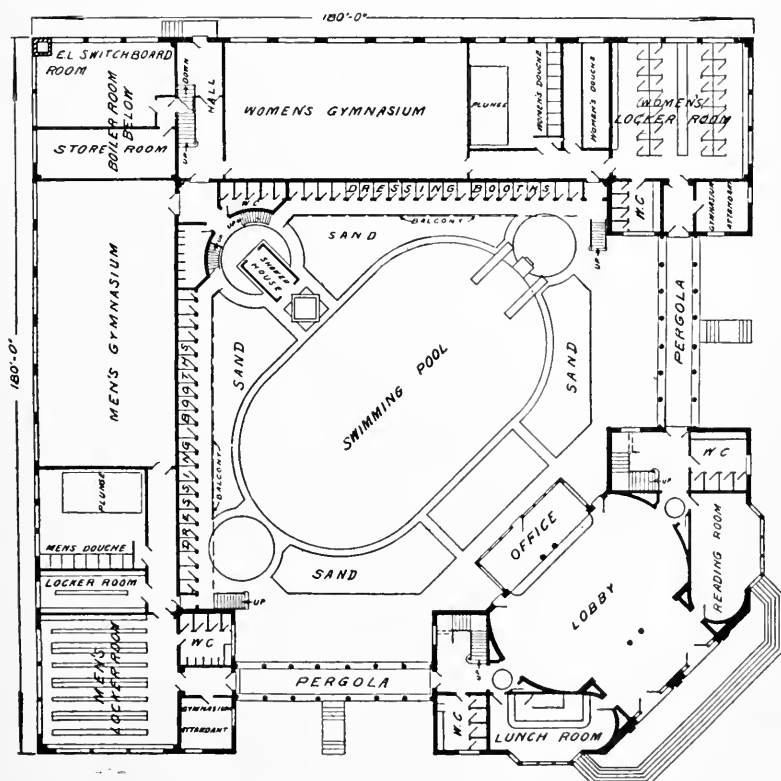
5. COMBINE BEAUTY AND UTILITY. One of the first features to strike the eye of the visitor is that this park playground has the beauty of the park and the utility of the playground at the same time. It is, in fact, a

PLAN OF RECREATION BUILDING ARMOUR SQUARE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

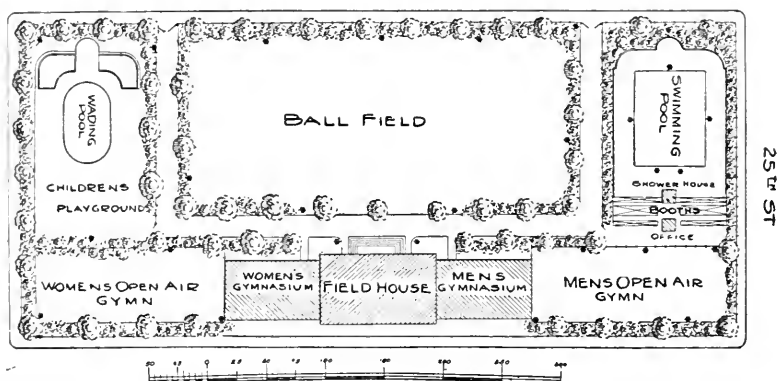


SECOND FLOOR PLAN



FIRST FLOOR PLAN

playground for all ages and sexes, and yet so beautiful that it seems like an oasis in the coal-grimed desert of South Chicago. Each of them is surrounded by a high iron fence, but even now the fence is so far concealed by trees, flowers and shrubs that it can scarcely be seen from the inside, and soon it will entirely disappear. On entering one is first impressed by the athletic field, where baseball and tennis are played during the summer, football and tennis in the fall, and skating and tobogganing are enjoyed in winter. The water is sprayed on with a hose, so that the ice is frozen as soon as the thermometer drops one or two degrees below the freezing point. As these parks are in crowded sections the ice is literally covered with skaters. A slide is erected at one edge for tobogganing. The shelter house on one side is closed in and heated for the skaters and coasters.



HARDIN SQUARE—A RECENT SOUTH PARK PLAYGROUND

6. **OUTDOOR GYMNASIUM FOR MEN.** A second notable feature is the athletic field and gymnasium for men. This is also surrounded, as are each of the features of the playground, by a high fence of sharp iron pickets. This field is surrounded by what they claim is the best running track in the world and which is certainly among the best. The outdoor gymnasium is large and complete, with every detail of outdoor gymnasium equipment. There is a separate place for each field event, such as putting the shot, the high and broad jump, pole vaulting, etc.

Not far from this is the outdoor gymnasium for women and girls, which is similarly equipped but smaller, and with more features intended for play rather than systematic exercise.

7. **PLAYGROUND FOR SMALL CHILDREN.** A fourth feature is the playground for small children, also surrounded with a high iron fence, and equipped with all the most improved forms of playground apparatus. In the center is a good sized wading pool. Running nearly around this is a concrete sand bin often as much as 150 feet in length and 15 feet in width.

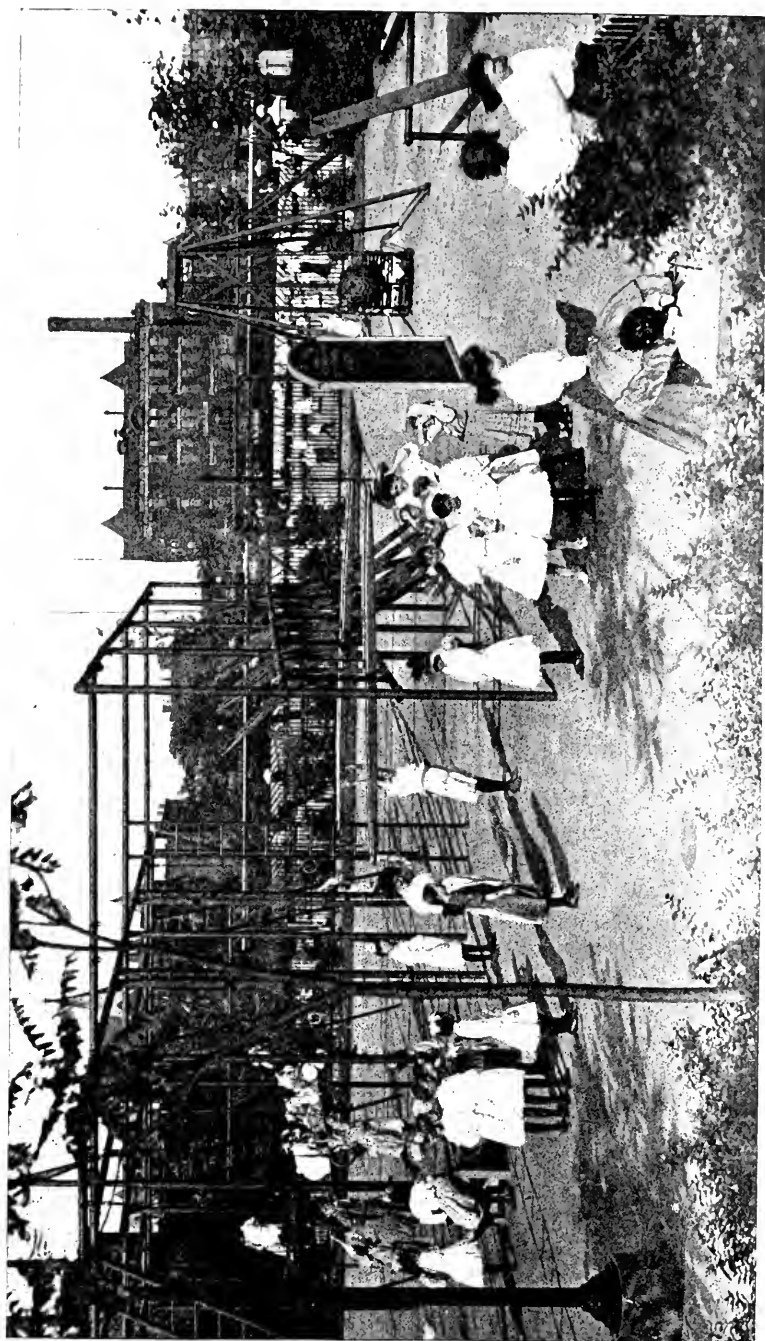


NATURE'S SUMMER OCCUPATION FOR CHILDREN

It is covered with an awning. Around this on a concrete platform runs a concrete seat for mothers who come to put their children in the sand while they sit on the bench and sew, or read or watch the children.

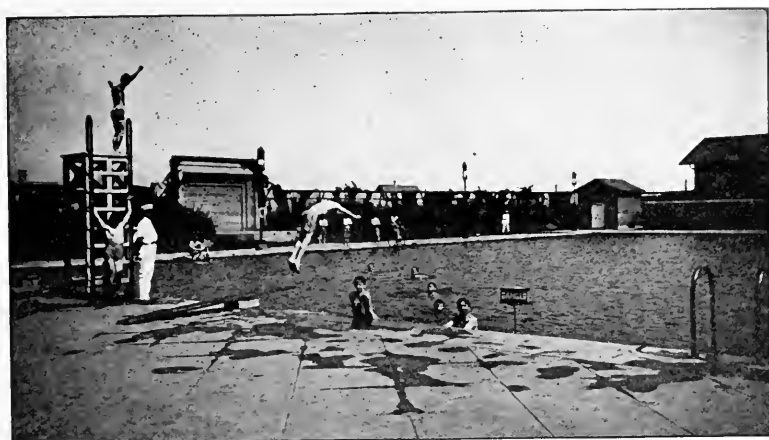
8. **OUTDOOR SWIMMING POOL.** The outdoor swimming pool is the most popular feature of the whole playground during the summer months. It is a concrete pond a little less than a half an acre in size and ranging from three to eight feet in depth. It is surrounded by a beach of white sand in which the bathers burrow and bask as they do on the sea shore. Around this are some two or three hundred bathing booths. The gateway into the pool is through a shower house containing some ten or fifteen showers, through which everyone is required to pass in going into the pool. Just outside are the waiting benches where about 200 people are usually collected during the middle of the day waiting for an opportunity to go into the pool. Each group of bathers is given an hour, and then, at the sound of the gong, they leave the pool and another set of bathers take possession of it. The park furnishes bathing suits, towels and soap. It is open four days a week for men and two days for women and children. The pool is lighted by electric lights and is open until 9:30 every evening. The attendance ranges between 500 and 1500 daily.

9. **FIELD HOUSES.** The most notable and distinctive feature of these new parks, however, is the field house. These field houses cost about \$90,000 apiece. The material used in nine out of ten buildings is concrete and the roofs are green mottled tiles. The approach is by a broad flight of steps extending almost the whole length of the building. On entering one is struck by the magnificent color scheme and the wonderful harmonies of the reds, browns, greens and blues and other colors which have been used



Courtesy of E. B. De Grood.

WOMEN'S GYMNASIUM



THE SWIMMING POOL

in the decoration. The broad entrance hall contains a circular rack of potted plants which enlivens the interior and reminds one that he is in a park. At one side of the entrance is a restaurant or lunch room at which such small refreshments as soups, sandwiches, coffee, ice cream and pie are served. All of these viands are sold at cost. A five-cent dish of ice cream which is made by the park department, is said to be the best ice cream in Chicago and is certainly delicious. So excellent is this simple lunch room that many working people in the vicinity are now going there for their lunches in place of going to other restaurants. The settlement workers say that they are having a strong influence against the saloons; that the people find it a pleasant place to come and sit down and have a cup of coffee or a dish of ice cream, and that the attractive surroundings give it advantages over the saloons.

10. **BRANCH OF PUBLIC LIBRARY.** On the other side of the entrance, in a number of buildings, is a branch of the Chicago public library. All of these libraries are used to the fullest extent and the Chicago librarian, Mr. Hurt, says that the one criticism which he has is that the rooms are not large enough to hold the people who wish to make use of them. I can testify for my own part that in the libraries which I visited there was scarcely a vacant seat.

11. **INDOOR GYMNASIUM FOR MEN.** At one end of the building is a gymnasium for men. This is completely equipped with the best modern apparatus, so arranged that the apparatus goes up on pulleys to the ceiling, thus leaving a clear floor for games of basketball, indoor baseball, etc. Just off from this are the best steel lockers which can be had, five or six shower baths, and a plunge pool usually about 15 to 20 feet in length.

At the other end of the building there is exactly the same equipment for women.



THE FIELD HOUSE
Sherman Park

12. AUDITORIUM AND CLUB ROOMS. Sometimes on the ground floor, but more often on the second floor, is a large auditorium with movable chairs which is used for public lectures or public meetings of any kind, or for dances or social gatherings. One of the greatest perils of South Chicago, as of most cities, is its dance halls. These halls are generally connected with saloons and often with Turkish or Russian baths as well. The South Park System is offering to the people a clean, attractive, well-lighted hall which may be used for any neighborhood purpose where the best influences prevail. They have already done much to lessen the use of the surrounding dance halls, and it is hoped that they will soon be able to close many of them. Off from the auditorium are four or five club rooms.

A notable feature about the use of the new parks, and especially the field houses, is that the ones in the better sections of the city are most used. In Hamilton Park, which is surrounded by a professional and business population of men who are supposed to earn from two to five thousand dollars a year, all of the features of the field house are now used almost to their full capacity.

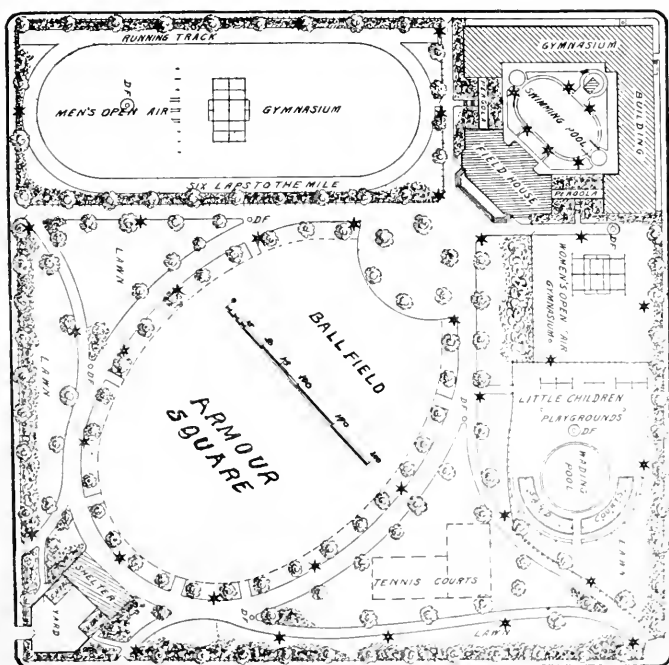
13. SUPERVISION AND MAINTENANCE. The keeping of this system is fully up to the level of the plan itself. Every part of it is faultlessly clean. Every piece of apparatus is tested every morning before the children are allowed in. During the summer time there are from fourteen to twenty attendants in every one of these playground parks. There are three life savers at the swimming pools. There is one who has charge of the shower-bath house and several attendants at the bathing booths themselves. There are three janitors, and a force of three or four men who mark out the running

tracks, tennis courts, care for the approaches, etc. There is a manager in charge of the building. Gymnasium instructors from May to November have charge of the outdoor gymnasium and fields, and from November until May they have charge of the indoor gymnasiums. The hours are from 2:00 to 9:30 in summer and from 3:30 to 9:30 in winter. All of these instructors are a high type of men and women, most of them being college graduates. They are receiving, at present, \$1,100 a year. Every part of the playground is open until 9:30 at night. On Sundays there is a special director who is an assistant to the regular athletic director and who takes charge of the work on that day.

If one may venture a criticism of this truly magnificent system, it is that the children's playgrounds are much in need of kindergartens, and that, as in many cities, there is great scarcity of well-trained and experienced social organizers. (Chicago is now taking steps to remedy this need.—EDITOR.)

There can be no doubt but that Chicago appreciates its new system of playgrounds. The attendance has doubled every year to date. \$6,000,000 for improvement has been voted Chicago since the first parks were completed, and the new parks are to be made larger and better than those now finished.

NOTE—See "Recent Developments in Chicago," E. B. De Groot, *Proceedings*, 1903.



ARMOUR SQUARE
A typical recreation park

CHAPTER XI

PLAYGROUNDS DOWN IN THE BLUE GRASS "IN OLD KAINTEUCK"

MADELINE McDOWELL BRECKENRIDGE

The playgrounds of Lexington present some very unique features. The one in which they are absolutely unique we think is that a system of parks has been created as the result of establishing playgrounds. Mrs. Desha Breckenridge who has been the inspiration and the motive force tells us about the movement.—*Editor.*

The first playground in Lexington was started in the summer of 1901 in the section of the city known as Irishtown. It was a typical Kentucky playground, located in the shadow of a distillery, and attended before the close of the season with many stormy incidents. The first superintendent resigned his job in a few weeks. He had come to the conclusion that the neighborhood was not "healthy" for him. The second superintendent, a college athlete, got along famously until the father of a large boy, whom he had picked out of a scrimmage with some little boys and put off the grounds, vowed vengeance. This father was known as a bad man. He had previously killed his man and escaped the penitentiary. Discretion on the part of the supervisor seemed the better part of valor; but the committee concluded that the moral effect on Irishtown of another supervisor resigning would be disastrous. They employed an assistant supervisor who was in reality a deputy sheriff. The two young men hunted in pairs, going to and from Irishtown always together and letting it be known by way of a peace argument that their hip pockets were equipped in true Kentucky fashion.

The playground committee with this first year's experience had not only every problem that may arise in running a playground, but it had gotten immediately into the midst of the whole Sunday question. When, the second year, the piece of property on which the playground had been held was offered for sale, an old saloon man across the street bought it and refused even to rent to the playground people. He did not like their influence in Irishtown and he thought he was getting rid of them. But a slip of a house was found with a tiny yard, and a vacation school with a little children's playground in the yard was conducted. It may be mentioned here that there had been no public school in this section of the town. The playground committee induced the school board that autumn to start a kindergarten that has grown into a school of a hundred and fifty pupils and that will be much larger when the new school building is erected. The school board has appropriated \$10,000 for this building and an effort is being made by the Civic League to raise \$20,000 on the outside. It is planned that the building shall contain a carpenter shop, a kitchen, a laundry, shower baths, an assembly room, and if possible a swimming pool and

accommodations for library and club rooms. The baths, the wash tubs, the auditorium, etc., are to be used by the adults of the community out of school hours; and if the plans of the Civic League are carried out the school house will become virtually the social settlement house of that community.

When, the second summer, the playground of Irishtown was turned into a vacation school, another playground was started on what is known as the city dump, a piece of land which the city was fast selling off, the remnant of which the Civic League hoped in this way to preserve for park purposes. It succeeded, and that land is now planned as a beautiful little interior playground with swimming pool, shelter house, etc. The third summer the Civic League placed a third playground on what is now Woodland Park, a piece of land which it desired the city to buy as a park. This has happened. The park with its splendid old trees has been put in order and beautified and is being greatly enjoyed by the people. * * *

The first year the playground was supported by the Civic League and the Woman's Club, or rather by private subscriptions collected by them. The second year the Civic League assumed the expenses, the Woman's Club contributing in some measure. The third year a city appropriation was obtained, and now the \$800.00 annually paid over by the city to the Civic League for the maintenance of the playgrounds is supplemented simply from private sources.

It is perhaps not too much to claim that three important things have grown out of the little playground work started in Irishtown in the summer of 1901. The creation of a Park Commission and the embryonic park system which Lexington now has are in a large measure the result of the playground movement and the agitation kept up by the Civic League through the hearty coöperation of the newspapers. The introduction of manual training into all the public schools, white and colored, of Lexington is one outgrowth of the humble work started in Irishtown and of the continual pressure and agitation of the Civic League. The system is not yet complete as the school board has not been able to equip all the school buildings for cooking and wood work, but it has been started on the right principle and some hand work is given to both races and both sexes in every grade from the kindergarten through the high school. And last, but not least, the model school planned for Irishtown, or rather for the whole section of the city known as the West End, which embodies the very newest ideas as to the function of the public school will, if consummated, be a step very far in advance. It will have its effect not only on the school system of Lexington, but on the schools of this whole section of the state.

"However difficult it may be to interpret America to the recent arrivals from other countries; however difficult it may be to unite our adult population on public issues of the day affecting the common weal, they may be unified most easily on those things which affect the interests of children. And the children's playgrounds not only help in unifying our adult population, but they interpret fundamental American ideals to all concerned. The central ideal in America is that we are self-governed people. We are governed by laws made by our own people, and we appoint officials to enforce the laws. But the best and most patriotic citizenship comes not as a result of compelling obedience to and respect for laws, but as a result of the practice of right ethical relations with each other, no matter what races, nationalities or classes are involved. This is the spirit of the playgrounds as expressed in the plan of play and games which teach self-control and self-government."—*E. B. De Groot.*

PART III
CONSTRUCTION

CHAPTER XII

CONSTRUCTION METHODS

A. GRADES AND DRAINAGE

1. **THE FIRST WORK.** If there are buildings on the grounds they must be removed. This can usually be done by some wrecking company who will buy them. If you wish to use the materials for other buildings it would be better to have it done under your own auspices.

The city engineer's office will give a plan of the land showing the exact size, grades of the streets, general city specifications, etc.

Also from the city engineer's office may be obtained other information which would be valuable, as follows:

Established grades of streets at all corners.

Established grades of property line on all corners of the playgrounds, and the established grades of property lines on property exactly across the street from these corners.

Actual grades in the same places.

From the city engineer also obtain information as to the probability of bringing those streets up to grade in the near future (the established grades in all cities are usually much higher than the actual grades, and it is quite the custom after houses have been built on the hills to lower the grades because the people who have secured houses on the hills do not want dirt dug out from under them.) The land secured for playgrounds will usually be below grade.

Secure from the water department the following information:

Exact location of water connections.

Size of main.

Depth of water main.

Size and location of outlets. (Also "work" them for all the second-hand pipe you can get, as it is good for fences.)

From the sewer department get the following information:

Location of sewers.

Depth of sewers below actual grade and below established grade.

Size of pipes.

Location and size of outlets.

Also city specifications for making catch basins and sewers.

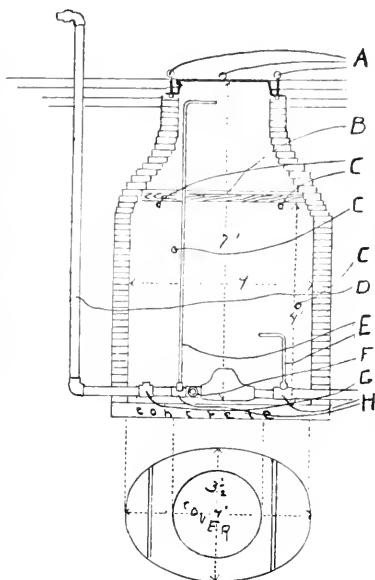
2. **DRAINAGE.** If the land is much below grade and filling is scarce, it can be made a sunken garden with catch basins and sewer connections so that it drains to the center. If it is on a side hill, it should be graded so that the gymnasium and space for children's games is level. The baseball diamond and running track should be one to two feet below the rest of the grounds, sloping at a grade of four inches to a hundred feet to a point near the center just outside the infield of the baseball diamond, where a catch basin is located and connected with the sewer. The manhole should have two covers, one to drain the field in the summer time and the other without holes to be used when the field is flooded.

After the land has been graded, a water system should be installed.

3. SPECIFICATIONS FOR BRICK METER BOX:

Meter box must be constructed of sewer brick according to the specifications for brick work of the Board of Public Works.

The inside measurements of the box must be seven feet (7 ft.) in depth, four feet (4 ft.) long and three and one-half feet ($3\frac{1}{2}$ ft.) wide at the bottom, extending upward the same size to a height of four feet (4 ft.) from which point the box should be drawn together so as to be covered by a two foot (2 ft.) manhole and cover. Two iron pipes or rods at least one and one-quarter inches ($1\frac{1}{4}$ in.) in diameter shall be inserted in the brick work at a height of four feet (4 ft.) from the bottom as indicated in the plan. Two other rods for steps shall be inserted in the brick work as indicated in the plan. The manhole cover shall be cast solid and shall have a hole drilled near the center through which a one and one-half inch ($1\frac{1}{2}$ in.) eye bolt shall be inserted. Through the flanges of the manhole top two (2) eye bolts shall be inserted with one and one-half inch ($1\frac{1}{2}$ in.) eyes coming just above the surface of the ground. The bolt from the top of the flange to the surface of the ground shall be imbedded in concrete. All eye bolts must be made of iron at least one-half inch ($\frac{1}{2}$ in.) in diameter. The bottom of the box shall be made of concrete. A one and one-half inch ($1\frac{1}{2}$ in.) lead water pipe shall be connected and extended from the city water main at the property line into the meter box and a one and one-half inch ($1\frac{1}{2}$ in.) gal. pipe shall extend through with the necessary connections to a distance of one foot beyond the other side of the box, from which point a gal. iron stand pipe one and one-half inches ($1\frac{1}{2}$ in.) in diameter shall extend to a height of eighteen inches (18 in.) above the surface of the ground and shall have at the ends a connection for a one and one-half inch ($1\frac{1}{2}$ in.) hose, water to be turned on and off with a key. Inside the water box the construction shall be as follows: An automatic drip valve and shut-off shall be placed on one side of the meter and a tee with a plug in the end of it shall be placed on the other side; beyond this an automatic drip valve shall be placed which may be opened and closed by an iron rod extending to the top of the box. Outside of this shall be placed a one and one-half by one and one-half by seven-eighths ($1\frac{1}{2} \times 1\frac{1}{2} \times \frac{7}{8}$) reducing tee with a plug in the end of it. All connections and fittings to be of malleable iron and placed as indicated in the appended plan and all work to be done in a thoroughly workmanship manner, and finished not later than —



PLAN OF BRICK METER BOX
Used in St. Paul

4. WATER SYSTEM. The water system can be either a gravity system which is the cheapest, or it may be the system which is usually used in parks, with the pipes all below the freezing line. The latter system is more satisfactory but the other is somewhat cheaper and answers the purpose. There should be provision made for flooding the skating rink; the plan above with specifications shows the method which we have used in St. Paul. We made no provision in this for connection with the sewer which was a bad mistake. There should be inserted in the specifications provision for a cesspool trap, and very small connection with the sewer. This meter box can have the top filled with hay above the planks in the winter time so that the water can be turned on and off without danger of freezing.

Street washers should be placed about one hundred feet apart over the space which is to be watered. It is not convenient to handle much

over fifty feet of hose. Care should be taken and not have any of the street washers project above the surface of the baseball field as they will cause accidents. They can sometimes be placed below the surface in a box which will have a sod on top, so that it will not hurt any one if they fall upon it.

5. **RETAINING A SLOPE.** Good sod, of course, is the best thing for retaining a slope, but it is quite expensive. A bank one and one-half by one can be planted with grass but it is quite apt to wash. For a very steep or a very long slope where it is not absolutely necessary to have a velvet surface alfalfa can be planted, in sections where it will grow. In other parts of the country red clover might be used. Both of these plants have extremely long roots. A lawn mixture in which clover predominates is the best for use on an embankment. Where there is not sufficient room for a slope a concrete retaining wall may be used, but it is expensive.

B. PLAYING SURFACES

1. **RUNNING TRACK.** There are three kinds of running tracks which may be used.

a. The cinder track which should be made as follows: There should be a bed of dirt or small stones, a layer of sod placed edgewise on this; over this should be placed a layer of coarse cinders four to six inches deep, and on top of this a layer of fine cinders which have been screened through a one-half inch screen should be spread to the depth of two or three inches. The whole surface should be thoroughly rolled with a heavy roller. A cinder track is very hard to keep in shape.

b. **Clay.** Place clay on top of soil or dirt. This is apt to be pretty muddy for playground use.

c. The best track which we know of is a mixture of cinders and clay made as follows:

Three or four inches of coarse cinders, well packed and covered with one inch of cinders which have been run through a half-inch screen will make a hard surface over a sandy bottom. If equal parts of screened cinders and good clay are mixed together, dampened, spread one inch thick over a layer of coarse cinders and well rolled, an ideal playing surface will be made for the athletic field, the running track or any part of the playground; such a mixture packs well, is springy, does not get dusty in dry weather and can be played on in the rain.

2. **BASEBALL DIAMOND.** For the baseball field a good closely cropped turf is best, and is quite practicable if the playground is of sufficient size and not in a very thickly settled part of the city. The base lines should be cut out and made with cinders and clay. If the baseball diamond is to be used extensively it should be made entirely of cinders and clay. This treatment for running tracks and baseball diamond also applies to the hockey field and skating rink.

In some places sand and clay can be used to a better advantage than cinders and clay, as follows: About 2 parts of coarse sand and 1 part of good clay mixed; this is especially valuable for running tracks and walks.

In the Chicago playgrounds they are using a mixture of clay and cinders and on top they are putting a layer of very coarse sand sometimes called binding sand or torpedo sand.

Cinders will often be hauled to the ground for nothing in the winter and dumped in place. Get from hotels, factories and lighting plants. Are often used for concrete in the building season, hence expensive.

3. UNDER SWINGS. The swings must have very hard surfaces under them or in a few days great holes will be worn in the ground to fill with water every time it rains. We have used a strip of cement sidewalk about three feet wide which works like a charm. It is so narrow that if the children fall out of the swings they fall beyond the sidewalk.

4. UNDER GIANT STRIDES. The giant stride is subject to the same condition of use which applies to the swing. We have settled this problem in two ways. We placed around one giant stride a bed of screened cinders and clay, equal parts mixed and spread to a depth of eight inches. This worked admirably on a hard soil for a foundation. In case the subsoil is sandy we would suggest that a bed of coarse cinders about eight inches deep be put underneath the top dressing. Another treatment which we used was to make a concrete runway about 3 feet wide entirely around the giant stride. This was placed just where the children would run on it. It had a big hole in the center which was filled with soft sand and the space outside of the runway was also filled with sand. The runway itself was placed on an incline. This seemed to answer the purpose very well, but the cinders and clay treatment seemed to give as good results at less cost.

5. UNDER SEE-SAWS. The space under the see-saws should be filled with soft sand to a depth of about six to ten inches. This can be kept in place by means of narrow cement curbing or planks, which should be placed at least four feet from the ends of the see-saws.

6. UNDER FLYING DUTCHMAN. The runway around the post should be a circle 6 feet in diameter made of cinders and clay, or of concrete. The one who runs around and furnishes power for the flying Dutchman will run on this runway which should be on a slant. Outside of this extending around a distance of four feet beyond the flying dutchman should be placed a small curbing and the space between filled with soft sand.

7. UNDER GYMNASIUM. The surface under the gymnasium apparatus should be of sand eight to ten inches deep. This should be kept in place by a retaining curb or plank allowing three feet of space outside of all apparatus. The only exception to this would be under the trick rings, which should have a hard dirt surface directly under them in order to enable the children to swing by striking with their feet. This surface, however, should be cinders and clay and not concrete.

8. BASKETBALL COURT. The basketball court requires a very hard surface. Cement would be best but would be rather expensive. We

used cinders and clay in the proportion before mentioned but would suggest that it would be better to use two parts of clay to one part of cinders for the top dressing.

9. TENNIS COURTS. Tennis courts should have a drainage foundation of coarse cinders 4 to 6 inches deep, well packed and rolled after being dampened. This drainage foundation should lead off on a slope in several places so as to carry away surplus water. On top of the coarse cinders spread fine cinders mixed with clay, 2 parts clay to 1 part cinders, level and then roll. In order to keep the horse off the tennis court hitch a long rope to the handle of the roller so that he can do all the rolling from the outside without stepping on the court.

The clay which we have always used was yellow molding clay but we should judge that common gray or blue clay would answer the purpose just as well. It would not, however, be quite so sticky perhaps and we would advise you before using any clays to mix up a small amount and test.

In the west the common adobe soil answers the purpose of clay but is not quite so sticky and would probably require a little larger proportion to the cinders.

In a very dry country we would recommend that the proportion of clay be increased and that salt should be mixed with the surfacing to conserve the moisture.

We have always done the mixing by hand but should judge that it could be put in a concrete mixer or it might be necessary to make a special mixer.

10. FOR GAMES. Grass is without question the best surface on which to play games, and it can be maintained under certain conditions. Our experience in Louisville was as follows. We had a plot of grass in the center of the park which was about seventy-five yards across. We allowed the children to play on this grass six hours per day while the play instructors were there. After the six hours had expired they were kept off and the park keepers tenderly watered the surface and kept it in shape.

For three months this playground had an average attendance of 425 children who played on this grass all the time, basketball, baseball, hockey, races and all manner of games. At the end of the season the grass was a little bit brown around the bases and the runs which we had not treated in any special manner. In a few other places especially under the trees it was slightly worn. This was in an especially dry summer.

In order to maintain grass the ground must be covered with about eight inches of black dirt.

11. DANCING. Grass also makes the best surface for dancing, and should be used whenever possible. A little separate green could be very well reserved for this purpose. In this connection we have considered the possibility of making a combination skating rink and dancing pavilion. This could be made of concrete so that in the winter time it could be flooded for ice skating and in the summer time it could be used for roller skating



BASEBALL DIAMOND, TRIANGLE PARK
Louisville

and for dancing. It should have a roof and the sides could be covered with vines. Summer gymnasium classes could also be given in this pavilion.

12. ARTISTIC TENNIS COURTS. Tennis courts, on account of the back stops used, are generally an eye sore in any park. The treatment used in Hartford, which consists of running vines over them, makes a very artistic feature. The vines used can be Virginia creeper, woodbine, Kundz vine, or annuals such as morning-glory and wild cucumber. (See page 122.)

13. SWIMMING POOLS. The construction of swimming pools is best taken up in the little book as follows:

*SWIMMING POOLS. By John K. Allen. 63 pp. 50 cents. Chicago. Domestic Engineering, 1907.

This little handbook outlines briefly the construction of swimming pools; their mechanical installation, water supply, heating the water, various types of installations adapted to different conditions, with thirty illustrations and charts.

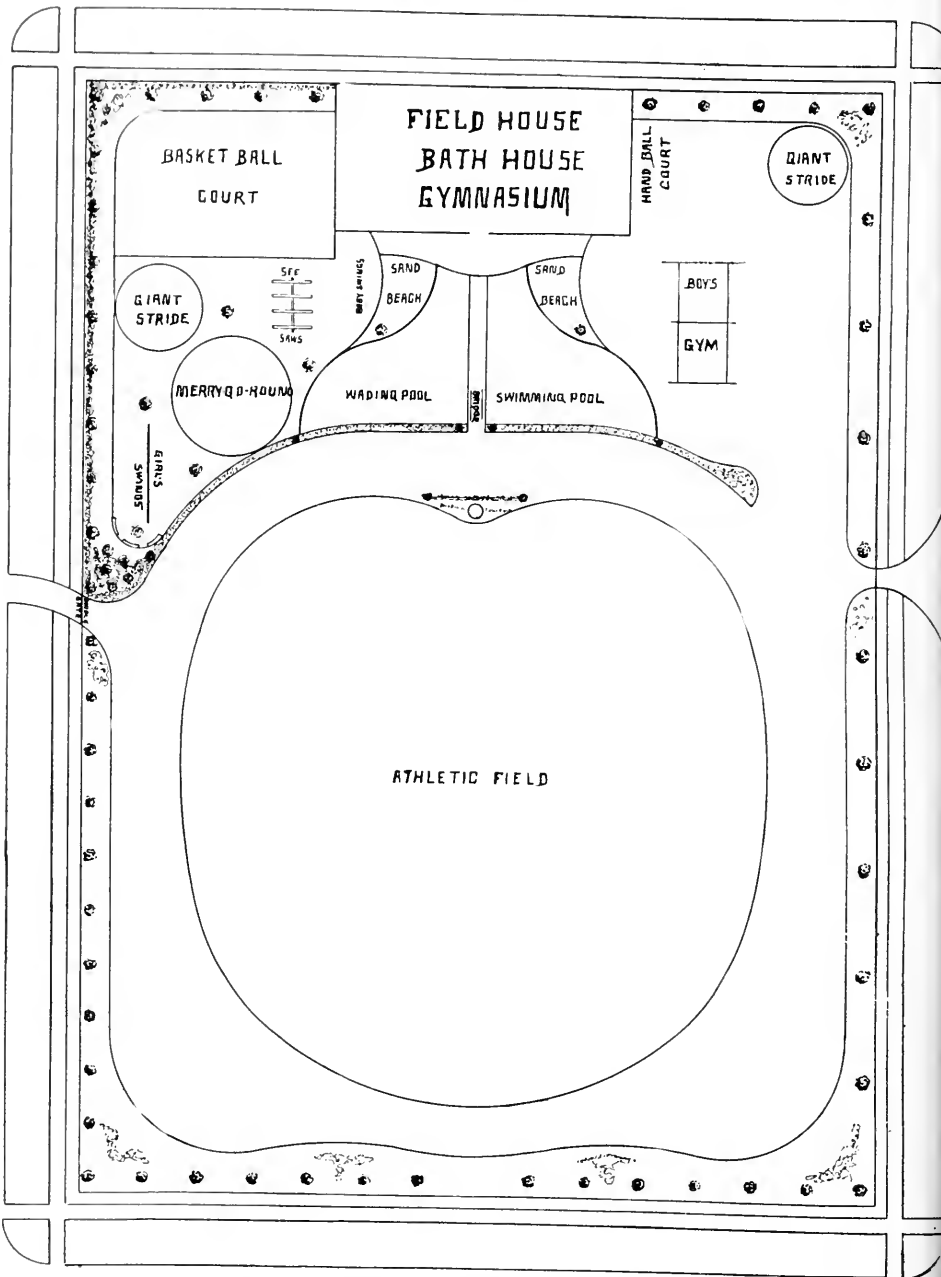
More than half the book is devoted to the discussion of methods of heating and modes of calculation of the amount of heat required. The section discussing various safe methods of construction is equally valuable as it abounds in accurate information as to adaptability of materials, errors to be avoided, etc.

In brief, this compact little book may be characterized as *filled* with accurate technical information on Swimming Pools. No public library should be without it, and no one planning to build a natatorium should fail to read it before making any plans for construction.

A recent patent on a method for securing surface drainage for swimming pools has just been awarded. The ideal surface drain is one extending entirely around the tank, without a break at the normal water level. When such a drain is not provided the dirt is washed against the walls of the tank and the grease and scum have to be scrubbed off. This new method obviates the difficulty and the rounded edge serves as a life rail in place of the metal rail usually in use. A manufacturing firm is prepared to install such a combined life rail and gutter.—(Editor.)

*The July number of *Hygiene and Physical Education* contained valuable articles relating to natatoriums.

W. 39th Ave



PLAN OF NORTH DENVER PLAYGROUND

CHAPTER XIII

THE NORTH DENVER PLAYGROUND*

ARTHUR LELAND

Playground Architect

1. IMPROVEMENTS COMPLETED. This Denver playground presents a problem in playground engineering, the successful solution of which makes possible the utilization of odds and ends of land for playgrounds, which are below grade and unsuitable for building purposes. The block used for this playground lies on two slopes sidling both ways, with the lowest part at the corner of W. 39th avenue and Navajo street, where the actual grade of the property is eighteen feet to twenty feet below the established grade and three or four feet below the actual grade of the before-mentioned streets which are unimproved. The property line at the corners of W. 38th with Osage and Navajo streets is practically the established grade and somewhat above the established grades of the streets.

Baseball in this part of the city is the only game interesting the boys. The field is so small that grading on two levels left no room for baseball, so a grade was selected which would utilize all of the available dirt, making the grounds practically level and not too far below the grades which would obtain if the ungraded streets were improved. When the street improvements are made, the corner of W. 39th and Navajo will be about three feet below the street. It now is, after grading the field level, about ten feet above the present grade of the streets, on an average. In order to hold the soil where the grounds are above the present grades, slopes were made, in some places eighteen feet high. These banks were sowed thickly with alfalfa and the long roots serve to keep the soil from washing, thus saving the expense of a retaining wall.

When all the streets are improved, these banks will be entirely filled and a slope made leading from the surfaces of the playground to the edge of the street, so that the places now above actual grade will then be somewhat below the established grade.

The entire surface drains to the center of the athletic field, where a catch basin can be made directly over the sewerage system already installed.

During the first four months of the time I was in Denver, the grounds were graded level; the border of trees planted, consisting of white maples with Carolina poplars alternating on the south and west sides. A gymnasium frame, purchased and erected by my predecessor, was taken down and reset in the proper place. Girls' swings, see-saws, baby swings, giant strides, were manufactured and erected according to the plan. A merry-go-

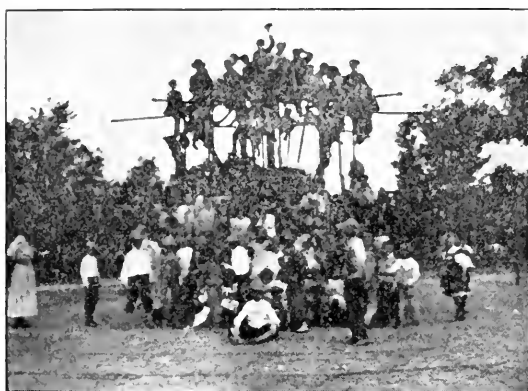
*Reprinted from *Hygiene and Physical Education*, April, 1909.

round and slide were installed later. A fence with iron pipe posts and wire netting surmounted with barbed wire was erected around the entire playground.

2. IMPROVEMENTS PROJECTED. The plan calls for the following additional improvements: cinder and clay walk and 12-lap to the mile running track laid outside of athletic and baseball field. A border of

grass to be made around the edges of this track with shrubbery grouped in places indicated. A drinking fountain to be installed with vine-covered wire screen to protect it from the baseball field.

Connecting the athletic field to the projected field house is to be a small concrete arch bridging the wading and swimming pool. *A high wire fence covered with vines and acting as a backstop and screen will keep baseballs



HOME MADE MERRY-GO-ROUND

from entering the girls' playground and the boys' gymnasium. A hedge around the girls' playground will act as a screen to insure seclusion. Climbing vines will be planted next to the fence around the entire playground. Shrubby and trees for shade complete the interior landscaping projected. A water system must be installed, then the vines and shrubs are put in, and temporary toilet accommodations must be put in to serve until other Denver playgrounds are partially developed, when a permanent bath house and gymnasium with outdoor wading and swimming pools can be constructed.

As soon as the surrounding streets are graded, boulevards and street lines of trees, not indicated in the plan, will be planted.

The improvements completed were put in at an expense of \$2,000 to \$3,000, most of which sum was spent on grading. The land cost \$7,500 and the value of this land was assessed upon property in the district benefited.

This is the first playground in Denver to be made on land owned by the city. Denver has maintained in addition, a playground on leased land and is now expending over \$250,000 on sites for new playgrounds.

For Recent Developments in Denver see Volume II, XXV (C).

*This could well be extended around two sides of the athletic field in order to protect those not playing baseball.

CHAPTER XIV

THE EVOLUTION OF ST. PAUL, MINNESOTA, PLAYGROUNDS

ARTHUR LELAND AND LORNA HIGBEE LELAND

Playground Architects

1. **FIRST ATTEMPTS.** The present playground movement in St. Paul had its beginning in a parlor conference held by the Associated Charities. As a result of the interest shown at this meeting, two playgrounds were equipped with funds raised by subscription. One of these was carried on in connection with a social settlement and was quite successful, but was abandoned in a year or two on account of the land being required for other purposes. The other playground was a decided failure on account of lack of supervision, and as it became a crime breeder, it was dismantled.

2. **PUBLIC BATHS AND PLAYGROUNDS.** Realizing the need of playgrounds and baths in that part of the city in which this unsuccessful playground was located, Dr. J. H. Ohage, the Health Commissioner, saw possibilities in an island in the Mississippi about eight or ten acres in extent. This island he purchased and equipped as a public bath and playground, along distinctively German traditions. Harriet Island was later turned over to the city, improved and maintained by it during warm weather under the supervision of the Health Department. "The Public Baths" have always been a very valuable feature in St. Paul's recreative life.

3. **THE PRESENT MOVEMENT.** The members of the Civic League under the leadership of Mrs. Conde Hamlin, feeling that the Public Baths did not reach all parts of the city and were limited in scope, met with the officers of The Commercial Club and organized in October, 1903, a Joint Playground Committee as follows:

Representing the Civic League: *Mrs. Wm. E. Bramhall, Mrs. Alex. Barclay, Mrs. W. E. Howard.

Representing the Commercial Club: Frederick G. Bradbury, Secretary, Paul N. Myers, Treasurer, Bishop H. Schriber.

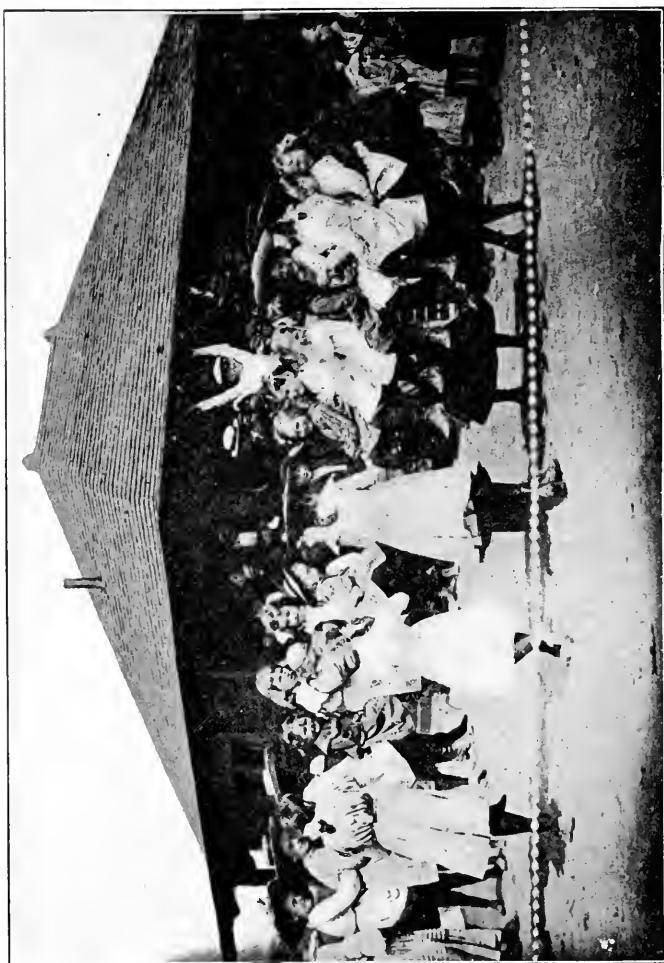
Frederick Nussbaumer, Superintendent of Public Parks.

Arthur W. Dunning, M.D., Chairman. Each one of this committee was also a member of a larger committee in each organization.

Profiting by the inauspicious beginnings of the two small playgrounds, they decided that the enterprise should be a municipal one, and following this idea, the committee appeared before the City Conference Committee and received an appropriation of \$2,500 for the purpose of starting a system of public playgrounds.

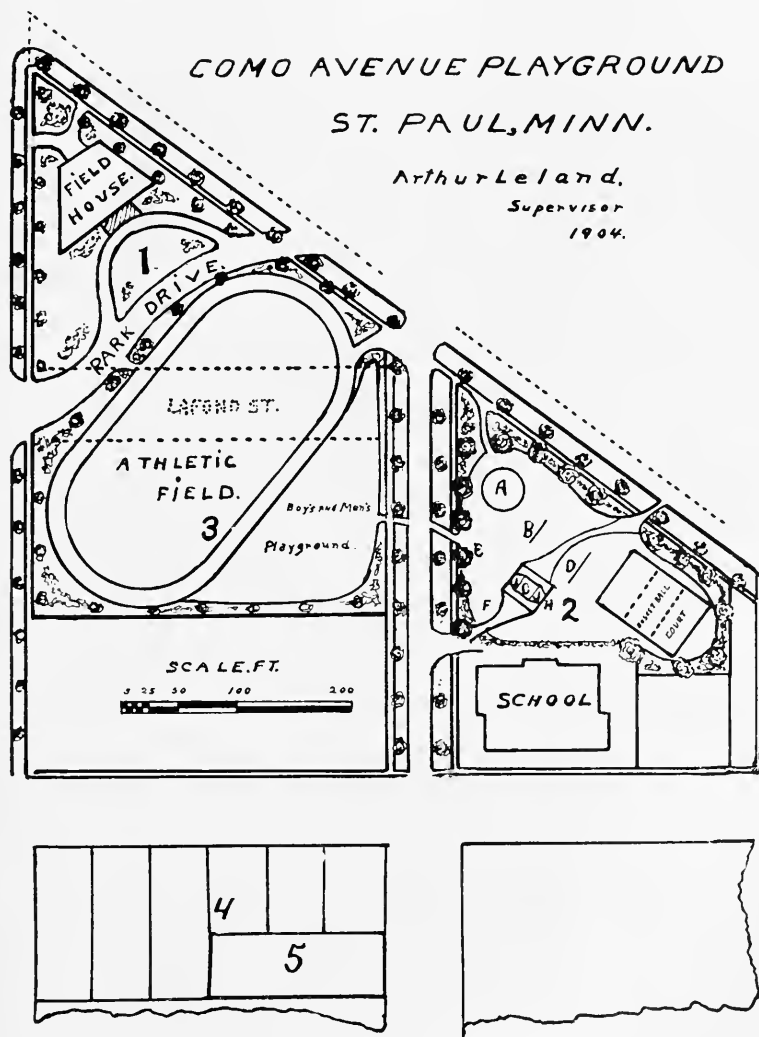
4. **HOW LAND WAS SECURED.** The city owned an old haymarket site 125 x 300 feet in area, comprising half of a small block. This site was turned over to the Committee to be used as a playground.

*Replacing Mrs. Hamlin who went to Chicago to engage in philanthropic work.



ON THE FLYING DUTCHMAN
St. Paul

5. SUPERVISION. From previous experience, having determined that supervision was the most valuable feature to successful playground operation, the committee secured a trained supervisor.



When the work of construction was definitely outlined, it was discovered that the City Council had turned over to the Playground Committee, the land on which the city engineer had his storehouse and lumber yard. It was impossible to use the ground for both purposes or to dislodge the engineer; furthermore the piece of land was entirely too small and the rest of the block being built up, there was absolutely no chance for enlargement.

The situation is shown by the accompanying plan of the Como Avenue Playground, (4) being the haymarket site and (5) the city engineer's storeyard (page 93).

After investigating the adjacent vacant lots, two triangles of land were discovered, (1) and (2) in the plan. These had been purchased by the Board of Park Commissioners in order to secure frontage for the proposed boulevarding of Como Avenue. A plan showing possibilities for playground development of these triangles, which called for the alteration of the intervening streets, and exchange of block 4 for block 5, also vacant, was prepared and submitted to the Superintendent of Parks.

The Superintendent had no objection to the use of this land provided no permanent improvements were included. As the plan called for permanent improvements, the matter was not presented to the Park Board until the Chairman of the Park Commission and creator of St. Paul Parks, the late Hon. J. A. Wheelock, returned to the city from a health trip. The matter was immediately submitted to him and received his heartiest commendation. In fact, he said, "I bought those pieces of land for a playground." Each member of the Park Board was visited with the plan and they authorized the use of the land in question as a playground.

One of the hardest problems of the year was the exchange of plot 4 for plot 3 as each lot in 3 was owned by different people. A special appropriation was secured to make the engineer's yard smaller and finally the exchange was effected without cost to the city.

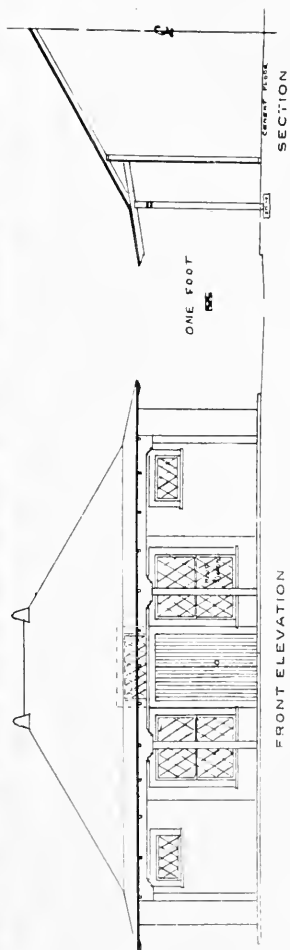
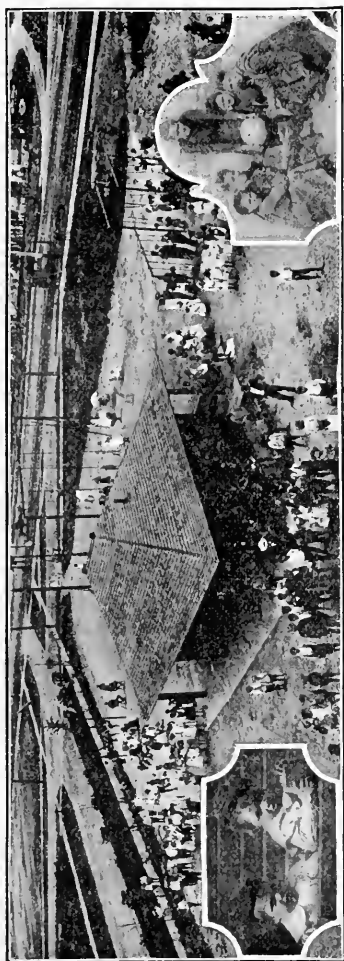
6. GRADING, LANDSCAPE GARDENING AND BUILDINGS.

About 1300 loads of filling and 200 loads of loam were hauled in, bringing triangle 2 up to grade. The borders were sodded and the edges seeded; 15 elm trees, 90 lilacs and 30 buckthorns were planted around the border, suggestive of a hedge, which was to be made by filling in the interspaces when more money could be secured. The grading and landscape gardening was done at a cost of \$457.29. A small playhouse, as shown in the illustrations, was erected at a cost of \$815.04. The floor plan of this is seen on page 96 and the elevation opposite. The superstructure is of wood with shingled roof and drop siding. The outside is painted a dark bronze green, with lighter bronze green trimmings. The windows are large with diamond panes and red sashes. (We do not recommend red sashes for the red excites the boys, so that they try and see how near they can come to the sashes with sling shots.)

The inside walls show the planed siding and studding which are stained dark green. A cement floor 33 x 35 feet serves as a foundation to the building and also as a veranda, enclosed within which are the sand boxes. The overhanging roof gives partial protection from sun and storm.

The building is divided into a large central play room 16 x 16 feet (which, owing to lack of other storage room was used at night for the storage of apparatus). At each side of the play room are toilet rooms for the boys and for the girls, each with shower bath and drinking water.

7. PLAY EQUIPMENT. The facilities for play included sand boxes, illustrated on page 97, a giant stride, a gymnasium frame made of old bridge beams, illustrated on page 99, a set of 9 swings on iron pipe frames, illustrated on page 98, a Flying Dutchman, illustrated on page 91, a steel horizontal and vaulting bar, a pair of basketball goals, a pair of parallel bars. Triangle 1 was used as a baseball diamond. The entire cost of this gymnasium apparatus and athletic supplies was \$179.40, (it is needless to say that the work was home made and that most of it was done by the supervisor with the assistance of the children). However, the quality of most of the equipment was good, and most of it is still in use after six years' time.

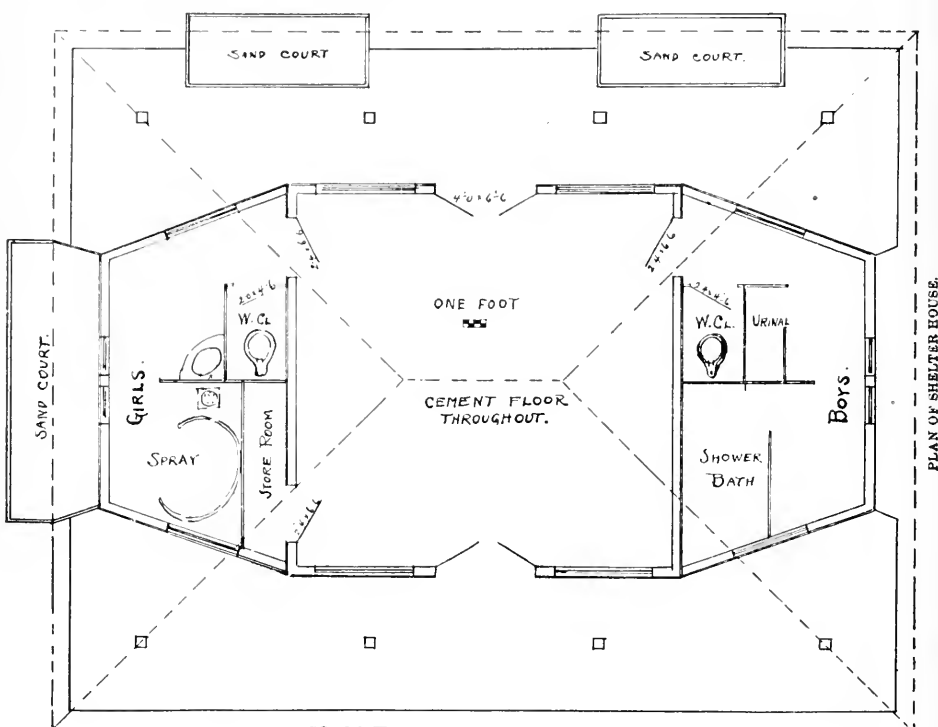


BIRD'S-EYE VIEW OF PART OF COMO AVENUE PLAYGROUND
ELEVATION OF SHELTER HOUSE

St. Paul

ARTHUR LELAND, Architect

8. **OPENING DAY.** The city officials and council were invited to the dedication exercises and the playground was thrown open to the children. The Commercial Club was there. The Street Railway Company furnished a special car. The ladies of the Civic League served lunch and St. Paul's Model Playground was a reality.



FLOOR PLAN OF SHELTER HOUSE
St. Paul

9. **PLAYGROUND BENEFIT BASEBALL GAME.** Toward the latter part of the year, our \$2,500 appropriation was rapidly diminishing and the Commercial Club arranged a benefit baseball game to be played with the Town and Country Club. This, too, was an excellent advertising feature and for two weeks the newspapers boomed the playground benefit game. Incidentally we netted \$400.

10. **CHARTER AMENDMENT.** By an act of the Minnesota legislature passed in 1899 and 1903, the judges of the district court appoint a committee of fifteen freeholders who act as a charter commission to frame and submit to popular election necessary amendments to the city charter. The Playground Committee went before this commission at its last meeting and

secured the insertion of the following amendment to the list of fourteen already drafted for last fall's election:

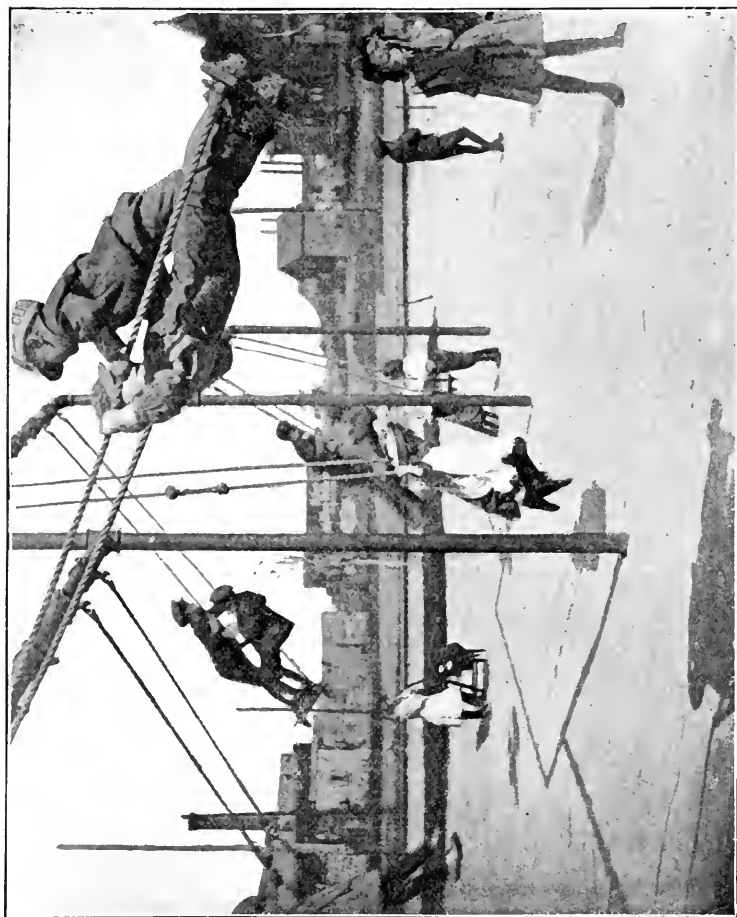
To provide and maintain public playgrounds and places of recreation for children and to levy the necessary tax to support the same, not exceeding in any one year the sum of \$10,000.



SAND BOXES AND BLOCKS FOR THE LITTLE ONES
St. Paul

This much accomplished, another campaign of publicity was necessary, for in order to become operative each amendment required three-fifths of all the votes cast in the city. Failure to vote for an amendment is equal to a negative vote.

The state and county officers were to be elected; some amendments to the state constitution, besides the fifteen charter amendments, were to be voted upon and altogether fifty crosses were required for the whole ticket. The chances looked dubious for the measure at the "tail-end of the heap." Undaunted, the committee, headed by its Chairman, Dr. Dunning of the Commercial Club and Mrs. Bramhall, President of the Civic League, took up the task. Its amendment, along with the others, was considered by the ward improvement associations, women's clubs, civic associations,



SWINGS ARE POPULAR AT COMO AVENUE PLAYGROUND

trade unions and other commercial bodies. The Ministers' Association took it up and some of the members preached playgrounds from their pulpits. Letters from prominent people telling the value of playgrounds and the importance of the playground amendment were published. Each of the papers gave us editorial space. The committee, supervisor and park board delivered campaign speeches.



**Healthful
Exercise
in the
Open Air**

**Away
from the
streets
and
alleys;
cars and
auto-
mobiles**

**Will you
give us
a place of
our own
like this
?**

WASTE BRIDGE MATERIAL CONVERTED FOR USE
Total cost set up by contract, \$65

A LEAF FROM THE DODGER USED IN THE PLAYGROUND CAMPAIGN
St. Paul

11. THE CHILDREN SECURE VOTES. All this we felt was falling short of accomplishment and it was decided to make a direct appeal to the voters, those interested in the 25,000 school children in the city. To this intent circulars and dodgers were prepared and made as attractive to chil-

dren and parents as we could devise. Obtaining permission from the school board, the leaflets were given out by the teachers to the children with instructions to take them home to fathers and big brothers.

Two weeks later the count was completed. Only six of the fifteen amendments passed and the playground measure showed a margin of seventeen votes. When the conference committee met to prepare the tax budget they gave us the charter limit of \$10,000. The council first talked of cutting it down to \$2,500, but such a storm of protest was raised that the full appropriation passed.

The successful passage of the measure was attributed to the campaigning of the children.

12. PUBLICITY. Of course the most effective factor in securing this favorable public sentiment was due to the successful playground work inaugurated and to the publicity given the playground movement.

Throughout the season all possible use was made of the daily press. Editors and reporters were given the news before it became history. During the period of construction the different papers showed the progress of the work by means of half-tone illustrations.

Our endeavor was always to keep the playgrounds in the public eye. An incomplete collection of local press clippings shows one hundred and sixty-three items as to playgrounds published during the first six months. Every addition to our equipment—every game played—every plan organized—everything, having any advertising value—was used. We tried to treat the papers impartially and planned to reach all sorts of readers by having playground news appear at different times in every department. In fact, one obliging city editor said he would “put our stuff in the want columns if we wished it.”

In addition also to printed matter 30 or more photographs and drawings together with 6 cartoons let the St. Paul people know that there was “something doing” all the time on the public playground.

13. TWO BASEBALL LEAGUES ORGANIZED. In order to make use of the sporting columns, and interest, through them, all parts of the city, we organized a city baseball league, having a team in each of eight different wards. This, with another league of teams from the vicinity of the playground, made an aggregate of sixteen teams who played some weeks as many as twenty games. Percentages were kept and the leading teams of each league given a pennant at the end of the season. Some of the games were played on this playground and some were played on vacant lots in various parts of the city.

In order to successfully carry on the press work and organization of games the supervisor was obliged to spend most of his time away from the playground which seems to us to be the proper place for a general supervisor to spend most of his time.

14. **SCHOOL TEAMS.** The children in the Scheffer School were divided into three sides, the reds, whites and the blues. Each division had a boy and a girl team representing each grade. Games were scheduled and a record of points kept. The captains of each side were elected by popular vote amid wild excitement. By making scholarship a necessary qualification to playing on the team this competition can be a great help to school work. One of the teachers said that already she had noticed a more regular attendance on the part of some boys.

15. **ATTENDANCE.** The playground was kept open $72\frac{1}{2}$ days, the average attendance being for the mornings, 130; afternoons, 235; total, 365.

16. **FOURTH OF JULY PLAY FESTIVAL.** The Commercial Club, through its Playground Committee, has maintained for several years a Fourth of July Play Festival at the Public Baths. The supervisor of playgrounds was a member of this committee and appointed to confer with the Superintendent of the Public Baths, regarding the preparation of a program of sports. Two complete programs were made, one set of programs having for prizes gold and silver medals, while baseball bats, gloves, etc., were given for prizes for the other series of games.

The Commercial Club raised some over \$1,000.00 which was expended in giving the children a "free feed," bunches of small fire-crackers and for music and fireworks.

The children from all over the city were assembled early in the morning near the city hall and marched over the bridge, down to Harriet Island, where, in the midst of the river, pandemonium reigned supreme.



A WRESTLING MATCH

Nothing but very small fire-crackers and harmless noise makers were allowed on the Island. Any one transgressing was promptly ejected. The programs of athletic and aquatic sports kept the children busy and they were sent home early. This Fourth of July Play Festival seems to be a happy solution of what to do with the children on our great National Holiday. Not a single serious accident resulted from the Fourth of July celebration throughout the city, which is now an annual affair.



KINDERGARTEN GAMES FOR THE LITTLE ONES
St. Paul

17. SOURCES OF ST. PAUL'S SUCCESS. In summing up the first year of playgrounds in St. Paul, during which by far the most valuable work was done, I should say that their keynote of success was the coöperation of a great number of interested leagues, clubs, and allied associations. The joint committee was an enthusiastic body representing numerous

allied interests and the supervisor was allowed to work out the technical details and the disposition of his time to the best interests of the playgrounds.

THE SECOND YEAR OF ST. PAUL'S PLAYGROUNDS

After the Playground Amendment was successfully passed, it was found that no provision had been made for the administration of the playgrounds. By a Charter provision, St. Paul is not allowed to create any new board or commission, or any salaried official thereof, hence the playgrounds must be administered by some board already in existence.

18. **PARK BOARD AND ADVISORY PLAYGROUND COMMITTEE.** As the President of the Park Board seemed to be very favorably disposed to playgrounds it was thought best to put them under its charge, with an advisory committee of three persons to advise with the Board of Park Commissioners, on all matters which related exclusively to Public Playgrounds.

The mayor appoints annually an advisory committee to act on playgrounds. The Park Board handles the accounts and appoints a supervisor who devotes all his time to the supervision and technical operation.

The mayor was given full authority to appoint this committee and it was supposed that he would appoint the ones who had done the work on the old joint committee.

19. **POLITICS.** Unfortunately, the mayor had some political debts to pay. Two or three different men were offered a place on the committee but refused to accept. Finally two were secured, but while these were very good men they had not been connected with the other committee and so were entirely inexperienced. The other position was tendered to one of the ladies of the Civic League, with a string tied to it that if she did not accept it would be offered to one of the men who had served on the previous committees. Naturally she did not care to accept the place. As a result of these appointments the playground movement lost both the backing of the Civic League and the Commercial Club and the advisory committee of three had absolutely no function other than that of giving advice.

An advisory committee without official powers must have a substantial backing in order to carry weight. The work the second year consequently was much delayed and impeded by friction. At the request of the Park Board, the supervisor gave up his outside excursions, organizing teams, etc., and put in all his time on the one playground until the latter part of the summer when a new ground was opened. Considerable new apparatus was erected at the Como Avenue Playground including two giant strides, a set of baby-swings, as illustrated in Chapter XXVI, a pair of parallel bars, a tennis set, and jumping standard.

20. **NIGHT PLAYGROUNDS.** During the summer the playground was opened nights and two persons were expected to carry on the grounds from nine o'clock in the morning until half past eight at night.

The night work is very valuable as it gives the boys and girls who work daytimes an opportunity to use the grounds, but the disciplinary problems at night on an unfenced playground are very serious ones. It is absolutely impossible for two people to keep order on a three and one-half acre playground and at the same time carry on a very highly organized system of games. Especially is this true when those same teachers have been actively at work in the playground a greater part of the day.

About the middle of August on account of the opening of a new playground another assistant was secured and pending the delay in construction of the new grounds, he was utilized for a short time at the Como Avenue ground, and a number of teams as well as classes in horizontal bar, parallel bar, and other gymnastic work were organized.

21. **SHOWER BATHS.** The shower baths proved most popular in 1905. The average number of baths taken daily was: Boys, 56; girls, 27; total, 83.

The two shower baths were worked to the limit of their capacity. Twice the number of baths could have been given had space permitted.

22. **PLAYGROUND SELF-GOVERNMENT.** In order to simplify the discipline of the playground the children were formed into a body politic, a miniature municipality, with the power to elect their own officers and have a say in the making and enforcing of their own laws.

One enterprising candidate for mayor formed his own party and got such a lead that no one else dared to start a party. It was also said that he promised political jobs to the available opposition candidates in addition to telling them that they had no hopes of victory. After some encouragement from the supervisor another candidate was found and a party formed to support him. The registration commenced. All who were over eight and could read and write were allowed to vote.



ELECTION DAY AT COMO AVENUE PLAYGROUND

The electioneering was spirited. Ralph McNellis, the citizens' candidate for mayor, had some cards printed after the most approved municipal fashion. The playground shelter house was covered with posters. The election was by secret ballot and resulted in a victory for Sam Longfellow, the candidate for the playgrounds party.

The election, however, was the main thing. There never seemed to be any time to get the council together, they were all too busy playing.

We tried to get the Board of Park Commissioners to appropriate a small sum of money to the Juvenile City and have the children in return take the contract for cutting the grass, watering, assisting in cleaning the grounds, etc., which seemed to us a very practical way of teaching municipal methods of handling money and the working of city governments. Incidentally the care of the grounds could be secured more cheaply than in any other way and the plan would give the juvenile officials something to do. However, this plan did not appeal to the park board.



OFFICERS OF COMO AVENUE PLAYGROUND CITY

I hope to see this plan worked in some city. With nothing to do, our juvenile officials pined and died officially. Such a condition does not seem so unfavorable to more mature incumbents!

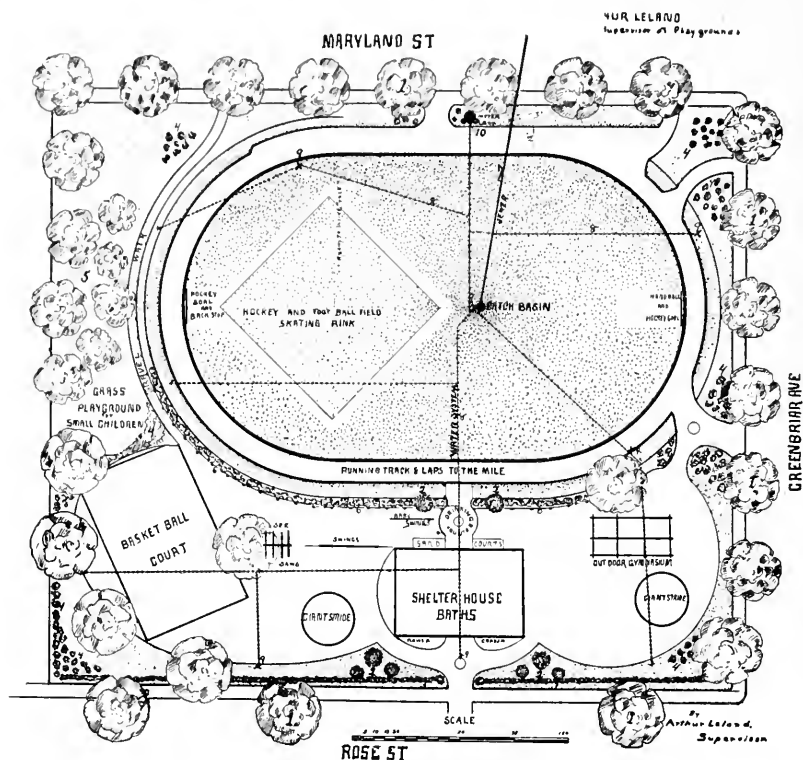
23. THE PLAYGROUND SCHOOL ATHLETIC LEAGUE.

For a description of the activities of this League see Volume II.

24. FROM REPORT OF SUPERINTENDENT OF PARKS. "The present organic act of the playground management is one of the most unsatisfactory of any of the departments of the city government. The powers of the playground committee under the city ordinance confined to an advisory capacity, do not serve as a stimulus to enthusiasm in their work. The development and care of the playgrounds should be placed in the hands of aggressive men and women, especially fitted for and interested in the work, with sufficient authority to care for, provide, and equip the playgrounds of the city outside of public parks."

The purchase of a tract of land shown in plan on page 106 and the installation thereon of a set of iron pipe swings, see-saws, as per illustration on page 98, giant strides with a very small amount of grading completed the improvements for the second year.

25. FIGHTING THE STREET RAILWAY TO SAVE THE PLAYGROUND. People who know, say that the street railway in St. Paul own the city government. Early in the winter of the second year, the street railway conceived the idea of making an extension and laying tracks directly through the street which separates the two larger triangles of the Como Avenue playground. Largely through the efforts of Mr. George F. Fisher, of the playground committee, who aroused intense opposition to the scheme among the property owners in that part of the city, the street car tracks were put through on an adjoining street, thus preserving the possibility of improving the playground ultimately, according to the plan proposed.



PLAN OF ARLINGTON HILLS PLAYGROUND
St. Paul

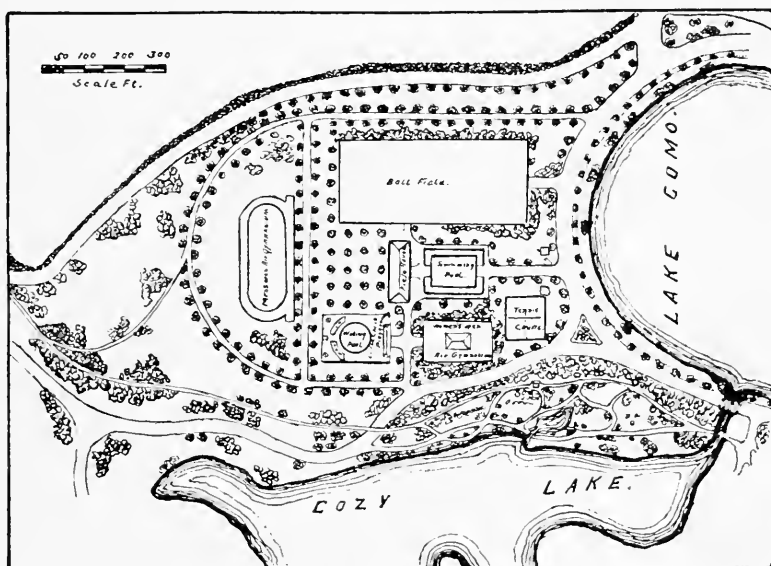
1. Elms. 2. Lombardy poplars. 3. Buckthorn hedge. 4. Lilacs. 5. Oaks. 6. Willow hedge and wire screen. 7. Sewer. 8. Water pipes. 9. Hose bibs. 10. Meter box.

26. **PLAYGROUND EXTENSION.** Early in the spring of the third year, the work of improving the Arlington Hills Playground according to plan above was commenced.

This ground was very rough, having a hole where some street car barns formerly stood. The ground is graded level with the exception of the baseball diamond, which is lowered two and one-half feet, draining to the center where it is connected with the sewer. The banks on the sides make possible a skating rink in the winter. Outside the baseball diamond is an eighth of a mile running track; then a grassy slope to the upper level. The borders around the grounds are a few inches higher than the play space and covered with turf. Lilacs are grouped in appropriate places. Along the front of the grounds is a buckthorn hedge, while one side has a hedge of lilacs. A high wire fence at the top of the bank around the running track protects those using the playground apparatus from the batted balls. This provision and the fact that the baseball diamond is much lower than

the rest of the ground makes baseball in such small quarters possible. Of course the ball goes out into the street quite often.

27. GYMNASTIC EQUIPMENT. The gymnastic equipment installed includes 2 giant strides, 1 set of nine iron pipe swings, 1 set 4 see-saws with iron pipe frames, 1 iron pipe square gymnasium frame, with ladders, horizontal bar, climbing poles, climbing ropes, trick rings, etc.



PLAN OF COMO PARK PLAYGROUND
St. Paul

This equipment cost about \$500.

The grading, surfacing, play space and running track with cinders and clay and placing concrete under swings and around giant strides cost about \$2,500. The other landscape gardening outlined will be put in some time.

Another playground was secured by exchanging seven lots belonging to the city, another unused haymarket site, and purchase of the remaining lots in the block. This, when improved, will make the largest playground in the interior of the city.

The same plan of athletic work used in previous years was carried out early in the winter and a skating rink was made at the Arlington Hills playground.

After I was called to a larger work in Denver, the physical director of the Y. M. C. A. was secured to devote half of his time to the supervision of the playgrounds. The Park Board has established, under the direction

of its Superintendent, a large playground in one of the outlying parks, and one or two small pieces of land have been purchased to be improved as playgrounds.

28. MINNESOTA STATE LAW. The State of Minnesota, in 1909, passed a new law permitting the cities of Duluth, Minneapolis, and St. Paul to issue bonds not to exceed one hundred thousand dollars for the purchase and equipment of playgrounds. These bonds are distributed through a period of four years, twenty-five thousand being available each year. St. Paul has taken advantage of this and will spend twenty-five thousand immediately for the purchase and improvement of two new playgrounds.

The following statement regarding the duties of playground supervisors we made in the June number of *Hygiene and Physical Education*, page 341:

"In order to successfully carry on the press work and organization of games, the supervisor was obliged to spend most of his time away from the playground, which seems to be unfortunate as the playground is the proper place for a supervisor to spend most of his time."

Lest the statement should be misunderstood, we would add that the supervisor of playgrounds, especially when the movement is young, is primarily an organizer, promoter and advertiser. The committee says, "Here is so much money; make and run a playground system." It would be as reasonable to expect the supervisor of playgrounds to spend his time on the playground under such circumstances, as to expect a superintendent of schools or a superintendent of parks to spend his time in any one school or park.

A playground committee or association made up of social workers able and willing to attend to executive details, including publicity and outside organization of sports will enable the supervisor to devote more time to activities on the playground.

The term, Director or Superintendent of Playgrounds, would more accurately indicate the place of the head of the playground system.

"Children are not asking for playgrounds," and the supervisor or someone must go out and work up an attendance. "The child who cannot find his own amusement on the street isn't worth saving." Competition of the street and vacant lot in a medium-sized city makes playground operation difficult.

To create public sentiment playgrounds must be constantly intruded before the eyes of the people by the public press, but if you expect the press itself to do the work you are seriously mistaken. The work devolves on the director. Most boards expect the supervisor to attend to all executive details, to keep the playground filled with children, playing under his personal supervision, and to find him at any one of the playgrounds at any hour of the day. Our advice is to have the expected duties defined and clearly stated in a contract to prevent any misunderstanding.

CHAPTER XV

AN IDEAL DEVELOPMENT FOR A PLAYGROUND ON AN IRREGULAR TRACT OF LAND BETWEEN FIVE AND SIX ACRES IN EXTENT*

LORNA HIGBEE LELAND

Playground Architect and Organizer

The fullest possible utilization of a piece of land for play purposes is not in any way inconsistent with its development as a work of outdoor art. In preparing this plan the play possibilities have, I think, been developed to the fullest extent consistent with the maintaining of landscape beauty.

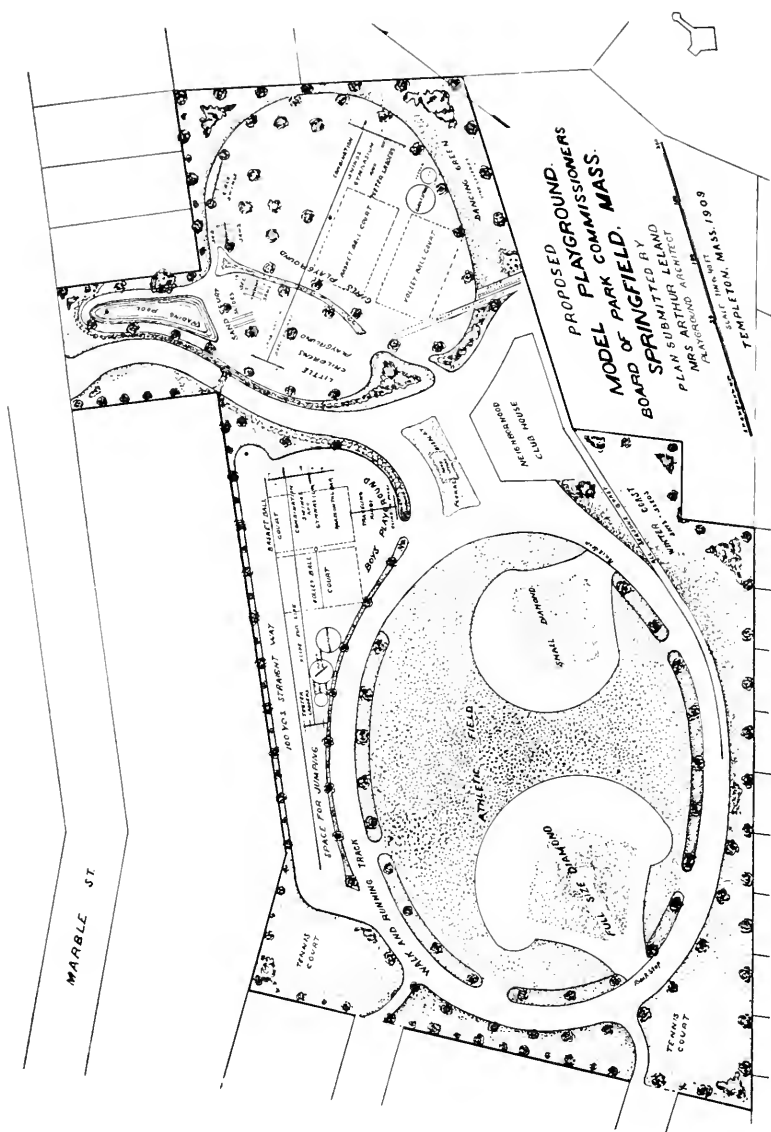
1. GRADES. The lowest grade called for is in the center of the athletic field, where two catch basins are to be placed for drainage of the left-hand half of the entire playground. The running track and 100-yard straightaway are each approximately the same grade, but higher than the athletic field, so that they drain into it. In winter time the entire surface of the athletic field and running tracks is to be flooded for skating and for coasting; the all-seasons coast being conducted down the shoot and around the running track, ending over the end of the straightaway running track, making a coast of about one-third of a mile. The boys' playground, the borders around the athletic field, and the borders outside the athletic field are all higher than these other two grades.

The little children's playground and the girls' playground will be graded at still another level.

The space taken up around the all-seasons coast, winter coast, neighborhood club house, dancing green, and the right-hand side of the girls' playground is all on the grade given by following the natural slope of the land. Considerable of the apparatus in the girls' playground will be set up on a slope, the peculiar construction of this apparatus making this possible.

2. WALKS AND TRACKS. The main entrance to the grounds and the plaza in front of the neighborhood club house and on the side should be of concrete. The slope of the walk at the right-hand side of the club house will give admirable opportunity for roller skating and small wagon coasting. In order to economize space, the walk and irregular one-quarter mile running track are combined with each other. This and the 100-yard straightaway track should be made of a combination of clay and cinders, or a combination of clay and certain kinds of sand is sometimes cheaper and nearly as efficient.

*Reprinted from *Hygiene and Physical Education*, March, 1909.



AN IDEAL DEVELOPMENT FOR A PLAYGROUND ON AN IRREGULAR TRACT OF LAND BETWEEN FIVE AND SIX ACRES IN EXTENT.

To cost \$5,000 if made by the "Playcraft method," not including grading or buildings.

The runways for jumping, for the baseball diamonds and playing surfaces for boys', little children's and girls' playgrounds can be made of the same material, preferably of clay and cinders, and the playground surfaces should have a larger proportion of cinders than is used in the runways.

3. FENCES. The entire field should be surrounded by a fence, the construction of which will depend upon the amount available for this purpose. An iron picket fence is best, but a very good substitute can be made by attaching a strong fine mesh (not more than $2\frac{1}{2}$ -inch opening horizontally) field fencing attached by bolts to second hand $1\frac{1}{2}$ or 2-inch iron pipe. This should be 5 or 6 feet high. Above this and very close to it should be suspended three strands of hog style barbed wire fencing. Chapter XVII (5).

There should be a fence around the boys' playground and around the little children's and the girls' playgrounds; and a fence around the running track would be very valuable during exhibit games and meets, but could be dispensed with, or a temporary fence could be made by setting permanent posts through which rope could be run whenever competition games were to be held.

4. LANDSCAPE GARDENING. The entire grounds with the exception of walks, tracks, boys', little children's and girls' playgrounds, as well as the athletic field and tennis courts should be covered with turf. If the playground is not in a very populous district, it may be possible to maintain turf on the athletic field and girls' playground and on part of the little children's playground.

The plan calls for the planting of over 100 elms and about 50 Carolina poplars together with some other trees and various hardy shrubs which are massed in corners.

The little children's and girls' playgrounds should be surrounded with a high growing hedge and the boys' playground should be surrounded with a thorn hedge. If hedges are too expensive they can be replaced by hardy annual climbing vines, which will cover the fences around each enclosure. The fence around the entire ground should be covered with hardy vines or with annual climbers if the others are too expensive. The little children's playground and the girls' playground should be separated by a low fence covered with sweet peas. The walk should be bridged by an arched trellis and vines should be trained to run over this and over the fence concealing the disagreeable effect of the sharp corner, where the walk runs near the property line.

5. PLAY FACILITIES. Mr. Leland has assisted me in developing the various pieces of play equipment. Only those pieces of apparatus which we have proven by years of observation as play directors, to be most valuable and interesting to the children, are suggested. The opinions and experience also of such play authorities as Doctor Curtis, Joseph Lee and

others have been consulted in this study of play equipment. The details of construction, and how they can be made economically by home labor or local contractors will be dwelt upon later (Chapters XXV, XXVI).

6. **BOYS' PLAYGROUND.** Combination swings and gymnasium, consisting of six 11 foot swings, two pairs trick rings, one trapeze, one incline steel ladder, one incline steel wire cable ladder, two pairs incline steel sliding poles, one slide for life, leading to teeter ladder frame, one horizontal bar.

Teeter ladder frame with four teeter ladders and attachment for slide for life.

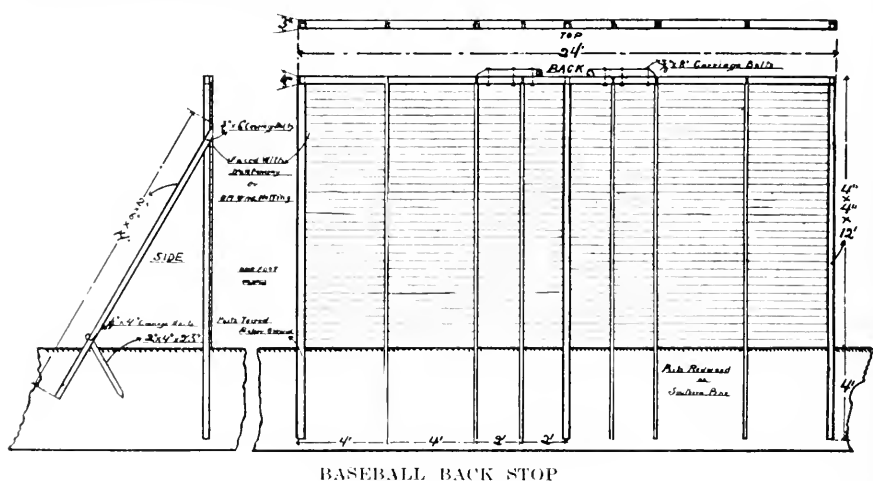
Volley ball and basketball courts.

Tether pole tennis.

Flying Dutchman.

Giant Stride.

The traveling rings are planned to be suspended from wire cables stretched from the top of the climbing pole frame to another support on which is attached one of the basketball screens. This is a new piece of apparatus which has not been tested as yet and if it works successfully, it will entirely do away with the necessity of using square, iron pipe gymnasium frames, as traveling rings are the only pieces of apparatus which cannot successfully be attached to straight line frames. Straight line frames are more economical of space and money and better adapted to make possible artistic landscape effects than square frames.



7. **GIRLS' PLAYGROUND.** The girls have a combination gymnasium and swing frame similar to the boys only somewhat lower and containing only three swings and four teeter ladders, and omitting the horizontal bar, which I think of little use in the girls' playground.

Giant Stride.

Tether pole tennis.

Set of four see-saws.

Girls' swings, including three 11 and six 8 foot swings.

Basketball goals and volley court.

Playground slide and volley coast and slide and dancing green complete the equipment.



John Bacon Hutchings, Architect

NEIGHBORHOOD CLUB HOUSE
Central Park, Louisville

8. **LITTLE CHILDREN'S PLAYGROUND.** The little children have a frame with two 8 foot wood seat swings and eight 6 foot leather seat baby swings; also two small playground slides and a set of four see-saws, sand court and wading pool complete the equipment.

9. **FOR BOYS AND MEN.** Athletic field, space for several baseball diamonds, full sized, and field hockey field.

10. **FOR ALL.** Tennis courts, use of running track and athletic field, all-seasons coast, winter coast. A very good handball court can be developed against the side of the neighborhood club house.

11. **NEIGHBORHOOD CLUB HOUSE.** This should include assembly hall, club rooms, branch of public library, baths, and small gymnasiums for use when it is impossible on account of bad weather to use the outdoor play facilities.

12. **GENERAL REMARKS.** The intention in this suggestive plan of treatment is to make the play facilities out-of-doors so attractive both summer and winter that there will be little need of indoor amusements and attrac-

tions. Unless I had at least \$50,000 to \$75,000 to expend on this ground exclusive of club house, I should not include a more elaborate outdoor gymnasium equipment. Such equipment as is outlined can be used almost to the fullest extent of its possibilities without requiring much of the attention of the director, leaving his time free for the formation of athletic fields, teaching games, etc., which is much more important than the teaching of gymnastic stunts from a social and moral as well as physical standpoint.

All of these pieces of play equipment, with the exception of all-seasons coast, roller coast and slide should be purchasable ready made from the machine companies, and set up ready for use for about \$1,100 to \$1,200.

They can be made by local contractors from proper specifications for this sum if not less. Provided such a plan is feasible, wherever there is a lack of financial support, frames can be erected by local contractors and the apparatus to attach thereon made by manual training students of the public schools, working from properly prepared plans, or in case of extreme necessity the trades union people may be induced to contribute their services in erecting the frame, providing merchants' associations will contribute materials.

A playground in Omaha, Neb., was equipped in this way.

CHAPTER XVI

LANDSCAPE GARDENING

1. TREES.

(a) For quick shade, the Carolina poplar is the best tree. This should be planted in alternation with other trees which grow more slowly and which live longer, such as elms and oaks. White maples also grow very quickly but are not as long lived as oaks and elms.

We have never known of chestnut being used for playground purposes but think it would be admirable, the ripening of the chestnuts would be an never ending sort of delight. The chestnut, however, will not grow in soil where lime is present.

In general, trees should be used which have a heavy rough bark, and if possible those with low branches should be selected, for sometime, it is to be hoped, they will grow so that the boys can build a playhouse in them.

(b) Trees necessary for shade as well as beauty.

(c) Should surround also each separate section of the playground.

(d) In Germany they surround the larger playgrounds with several rows of trees, thus making it in effect a glade in a forest.

2. GRASS.

(a) Grass should be encouraged wherever possible.

(b) In the larger playgrounds all the chief fields should be covered with grass.

(c) Even in the smallest grounds, there is usually some strip or border where grass can be encouraged.

3. FLOWERS.

(a) The larger grounds have the same possibilities as the parks, though they must be placed so as not to interfere with the activities.

(b) In smaller grounds, flowers may be put around the flag pole, and about the buildings and fences. The children may be encouraged to tend them.

4. VINES.

(a) The use of vines will be determined by the nature of the fences and buildings.

(b) A wire fence can be made beautiful with morning-glory, honeysuckle, cypress or thumburgia, climbing pea or scarlet runner vines.

(c) Virginia creeper will cover an ugly board fence so as to make it presentable.

(d) Wisteria, Kundz vine and ivy will cover the playground buildings if desired.

(e) Morning-glory and Kundz vine will cover the trellises at the toilets or the frame over the sand bin.

5. SHRUBS. About the best shrub to use on playgrounds is the lilac. It is perfectly hardy, will grow almost anywhere, and the more it is picked and maltreated the more it spreads and grows. Forsythia is valuable for planting along the side of walks. Hawthorn, deutzia, dogwood, bridal wreath, roses, sumach, viburnum, syringa, weigelia, snowball, common and Japanese, are all suitable for playground use. By having the children plant the seeds and grow the shrubs a playground could be made beautiful quite easily. We would suggest that the children be encouraged to secure, transplant and tame wild shrubs. (See article on "The Play Course in Landscape Gardening and Horticulture," Chapter XXIII).

(a) Great possibilities in the use of shrubbery in large grounds.

(b) Very restricted use in small grounds.

(c) It is very desirable that the girls' playground especially should be screened from public gaze. If there is an iron picket fence, a few feet of shrubbery just inside it will serve to make the playground exclusive.

(d) A border of shrubbery can also often be used effectively immediately about the building.

6. RULES FOR LANDSCAPE GARDENING. It is impossible to make a landscape architect by means of writing upon the subject because it is all or largely a matter of composition. Nature is the best teacher. When trees, plants, shrubs and flowers are arranged in the way Mother Nature does it, the affect cannot help being artistic. Landscape gardening is used for the production of beautiful pictures. One has to know what these would be. In general the aim should be to conceal all unsightly objects, buildings, etc., and to bring into prominence anything of beauty such as a distant church spire, a hill or a mountain. It would be well to let the children experiment and try to imitate and reproduce beautiful views which they may see. This would give an never ending source of interest for excursions into the country.

7. THE USE OF WATER.

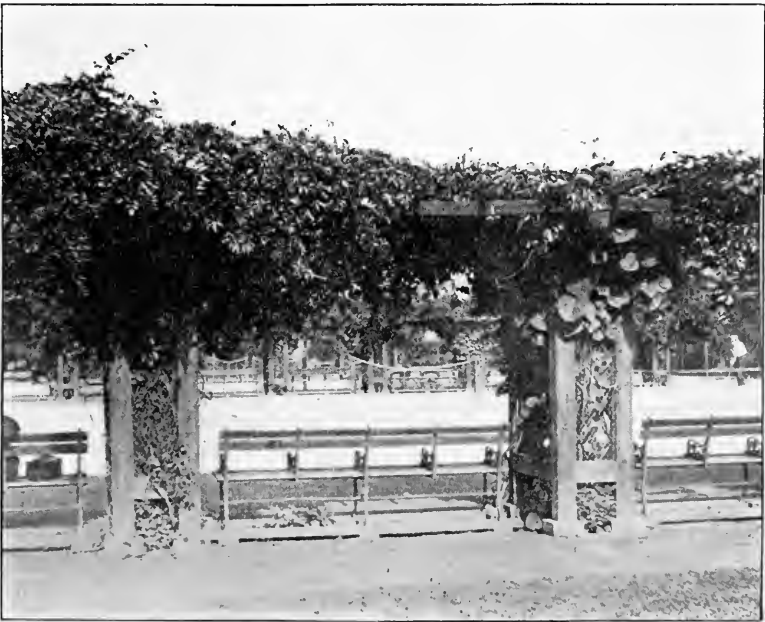
(a) There is an abundance of opportunity for water landscape effect in the large playgrounds through the use of lagoons and lakes.

(b) There are usually some possibilities from the wading pool and swimming pool in the smaller playground.

Wherever possible, the landscape value of water should be made use of. Water seems to have an effect upon our subconscious mind, which is very valuable, especially in the noisy city. It suggests quiet, peace, repose and coolness. It is not necessary that there should be an ocean of it either. Perhaps the best use for water is in the wading pool. Wherever possible,

the traditional form of the wading pool should be altered. Many parks have streams running through which might be utilized. A pool could be made by hollowing out a place in the natural course of the stream and covering the bottom with rocks, with about six inches to a foot of sand covering them. A background of spruces* would give tone to the picture and set off the naturalistic treatment. Rushes, water grasses and wild rice could fringe the further bank; between these and the trees quantities of cardinal flowers and fringed gentians should be planted. On the near side of the wading pool is an appropriate place for a broad sand beach; at the small end of the pool may be placed an immense boulder where the children may play "Pilgrim Fathers Landing on Plymouth Rock," etc. A retaining wall in the rear may be covered with Boston ivy which grows from the ground below and also which runs down from the street above. This is applicable where the brook runs through a culvert under a street.

Violets and other plants which love to grow beside the brook may be transplanted here and taken care of by the children.



Courtesy Geo. A. Parker.

ARTISTIC TENNIS COURTS
Hartford, Conn.

8. WADING POOLS FOR SCHOOL YARDS. Mr. Walter Hardy says in regard to wading pools: "No playground is complete unless it affords a

*Conifers are not adapted to smoky cities.

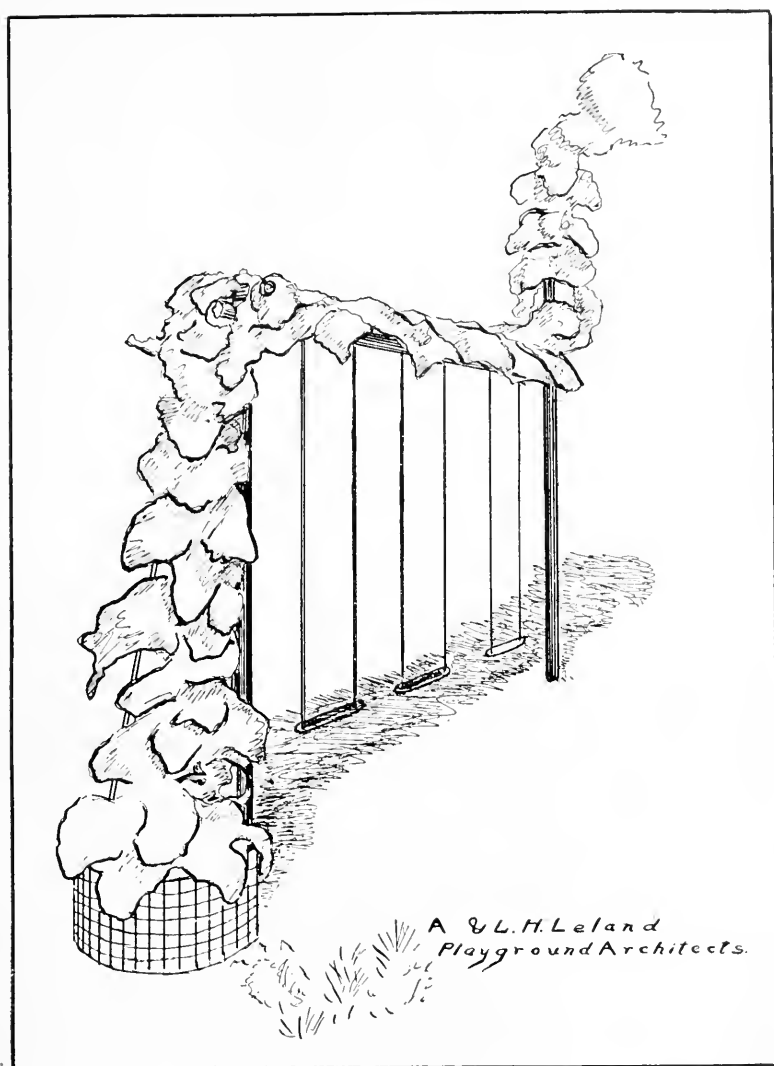
chance for the children to get their feet wet. Twice during the past summer we had rains heavy enough to fill a low spot in one corner of our playground with water which remained there all day. Nothing pleased the children more than to wade in this little pool. Even big girls twelve years old, who at first thought themselves 'too big to go barefooted,' were soon in with the rest. Following the suggestion of this incident and the plan of the pools on the South Park playgrounds of Chicago, I believe it would be possible at very little expense to have a wading pool on even a school yard playground. A man with team and scraper could soon lower a basin two feet deep and sixteen feet square which, lined with cement and a drain in the center, could be filled with fresh water every day."

9. SHADE. Shade is absolutely essential to the successful conduct of a playground. This may often be furnished by means of awnings but it is our opinion that landscape gardening and the use of trees and vines should be prominent. The sketch on next page shows an easy method whereby swings may be shaded. The same principle may be applied to other features of apparatus. Mr. Walter E. Hardy, speaking of shade in an article in *Playgrounds*, says in part:

10. PLAYGROUND CONDITIONS BEST WHEN LIKE COUNTRY. "The most ideal conditions for freedom of play are to be found in the country where nature offers opportunities that harmonize with boy nature—shade, grass on which to roll and tumble, an old 'swimmin' hole,' trees in which to climb, and fields where he may run and romp. Then we at once conclude that city playgrounds should conform as nearly as possible to natural requirements. In our congested city population the lack of these natural places for play creates the need for artificial playgrounds."

11. SHADE ABSOLUTELY NECESSARY. "Nearly all of the play centers now furnish opportunities for climbing and running, but the shade, grass, and water are lacking. In most places where playgrounds are started as experiments by private donation, in order to get them centrally located, they are opened up on some sun-baked schoolyard, with possibly a few scrawny trees around the outside, no water near, and no grass. Apparatus, such as swings, teeters, ladders, etc., and a bare, heat-reflecting open space for massed games, are common to all such playgrounds as I have seen. Such an equipment would tax the ingenuity of the most resourceful director to hold the interest of the children during the hottest days of summer, when every game that calls for violent exercise in the hot sun is sure to result in some child having a headache, nose-bleed or sunstroke.

"My observations have been that the shaded apparatus is most used by the children. Swings hanging in the sun on our playground in Kalamazoo, Michigan, last summer, remained empty, while those in the shade were being used. As soon as the afternoon shade from the schoolhouse reached the hot, empty teeters they became filled. Sand piles in the open sun dry out and are of little use. The largest crowds came to play on cloudy and cool days. On those days all of the apparatus was in constant use,



LET NATURE FURNISH SHADE

besides the enthusiasm that was shown in the team games, story hours and quiet circle games, all of which goes to prove that playgrounds should be provided with plenty of shade. If trees are not to be had, tents and canvas coverings will serve the purpose, and should be placed over the sand piles and apparatus, in part at least. The tents appeal to the child's imagination and may, in consequence, be put to various uses. A piano, if one is provided, should be under this shaded area, to be used in many of the games, marches and dances."

CHAPTER XVII

FENCES AND HEDGES*

I. REASONS FOR FENCING PLAYGROUNDS:

- (a) Protection of the trees, flowers and shrubbery.
- (b) Keeping out lawless gangs and toughs, and helping in discipline.
- (c) Protecting the girls and little children from annoyance.
- (d) The protection of the apparatus and preventing the congregation of undesirables on the playgrounds at night.



ARTISTIC FENCE POSTS
(Chicago small parks)

The question is often asked can a playground be run without a fence? In answer to this, we would say that it is not an impossibility. The playgrounds of St. Paul have been run without fences for a number of years. This is the way we did it. All the apparatus was taken in at night. Two or three nights a week the supervisor had his assistant go away and leave him in the building, where he stayed until children and others congregated. When a sufficient crowd had assembled the supervisor appeared and sent them home. After several weeks of this the children got the idea that he lived in the shanty, so that it was not necessary to watch it closely. We think it is cheaper to have a fence. The supervisor has more important business to attend to, and very little dependence can be placed upon casual visits of the police. We never would recommend the establishment of an unfenced playground. Aside from the maintenance of order

there is a psychological value to a fence which cannot be over-estimated. It transforms the playground from the vacant lot and gives something which the children belong to so that the maintenance of discipline is much easier.

*See Article by John H. Chace, *Playground*, November 1908-January, 1901.

2. KINDS OF FENCING.

(a) The steel picket is the most common. It is very expensive. Chicago playgrounds show best example.

(b) A wire fence covered with vines is much cheaper and seems to serve equally well and need not be a disfigurement to the grounds. It can, in fact, be made a decided ornament by covering it with vines.

(c) Evergreen hedge or privet, reinforced with wire, makes an excellent fence.

3. THE GATES.

The gates should be of a kind that cannot be easily climbed over and should be closed at a certain hour every night.

4. HEDGES.

(a) In general, hedges are very much cheaper, harder to climb and are much more beautiful than picket fences, and shut out the gaze of undesirable spectators.

(b) They will need to be reinforced by a wire fence at the beginning.

(c) Some form of evergreen privet seems to serve the purpose best in the North.

(d) Prickly barberries make a good low hedge to protect grass areas and keep the children in the path.

We have always used buckthorn for hedges. This, however, is quite expensive and the buckthorn is rather a difficult shrub to grow. Japanese barberry makes a very good hedge and is suitable for separating the interior parts of the playground, but not so good for the outside.

We have been experimenting with hawthorn which if it proves successful ought to be the best hedge for New England, where it grows wild. The hawthorn will grow on very poor sandy soil. We have a hedge set out two years ago, taking the plants direct from the woods. We did not prepare the soil and watered but once. Only a few died in spite of hot, dry summers.

If any of our readers should desire to plant a hawthorn hedge we should be glad to furnish them with sample plants at cost of collecting them from the woods. The hawthorn is about the toughest shrub which grows. When the branches are green it is absolutely impossible to break them across.

5. WIRE FENCE AND SPECIFICATIONS.

Specifications for fencing:

The meshes of the fence must have no openings horizontally over two inches wide. The openings vertically must not be longer than four inches. If the style of fence is cable field fence, the horizontal cables must be made of not smaller than No. 12½ steel wire, placed every four inches of height. Cross wires must not be smaller than No. 14 steel wire.

If the fencing is made of electrically welded steel strands, the wire must not be smaller than No. 11. All fencing must be galvanized and in first-class condition.

Specifications for posts:

All posts except corner posts and braces must be of sound second-hand or new 1½-inch pipe, which has had the rust thoroughly cleaned off and a coating of asphaltum or elaterite paint applied. All corner posts must be made of sound, second-hand or new 2½-inch pipe, cleaned and painted as specified above. All braces must be made of second-hand or new 2-inch pipe, cleaned and painted as specified above.

Specifications for erecting the fence:

Each corner must be braced both ways with 2-inch pipe as specified in the drawing. Each fence post shall be anchored as specified in the drawing. Midway in each stretch of fence which is over 100 feet long, the post at this point shall be braced both ways with 2-inch pipe anchored as shown in the drawing.

Posts shall be placed 16 feet apart.

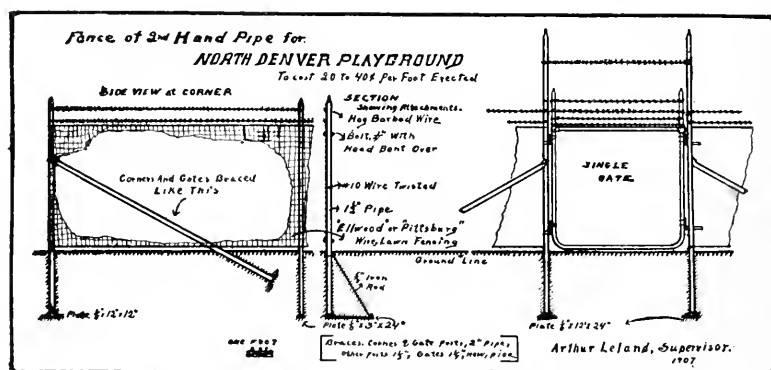
Specifications for placing barb wire:

The 58-inch fence must have a strand of barb wire, hog style, fastened with bolts to each post, one and one-half inches above the top of the fencing.

The 48-inch fence shall have in addition to the strand of barb wire mentioned above, two additional strands, bolted to each post at distances respectively 2 inches and 4 inches above the first strand.

Specifications for attaching fencing:

The fencing must be secured to the posts by means of bolts and wires. The lower border of the fence must be placed one and one-half inches above the ground and the whole fence thoroughly stretched and erected in a first-class and workmanship fashion.



PLAN OF A SERVICEABLE AND ECONOMICAL FENCE

Cost 40c. per foot erected by contract in Denver. Could be erected by day labor for 20c. per foot.

Specifications for gates:

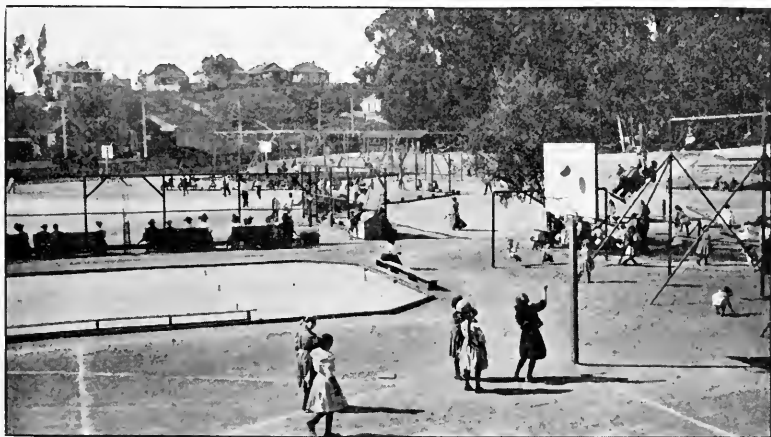
All gates must be made of one and one-quarter inch pipe with malleable fittings as shown in the plan. If they have a steel gate which can be altered so as to permit the necessary strands of barb wire being placed on top, have them give us a price on both the steel gates and the iron pipe gates made according to the specifications. The gates must be secured to the post in such a fashion that it will be impossible for the boys to take them off, or work them loose. They must be braced as shown in plan and another brace at right angles to this must be used on the side where the gate swings.

CHAPTER XVIII *

LOS ANGELES PLAYGROUNDS AND BUILDINGS

A. PLAYGROUNDS AND OPERATION

Los Angeles represents the final consummation of the combination of the playground and the social settlement. The country at large has much to learn from this city. Chicago has developed its wonderful system of field houses and recreation parks on a gigantic scale. Los Angeles was the first city to adapt these to the conditions which obtain outside the largest cities. Through the kindness of Miss Bessie D. Stoddart and Mr. Raitt, we are enabled to reproduce specifications and plans of these buildings as well as photographs. For other matter regarding supervision of Los Angeles playgrounds and the playground commission, see Volume II.

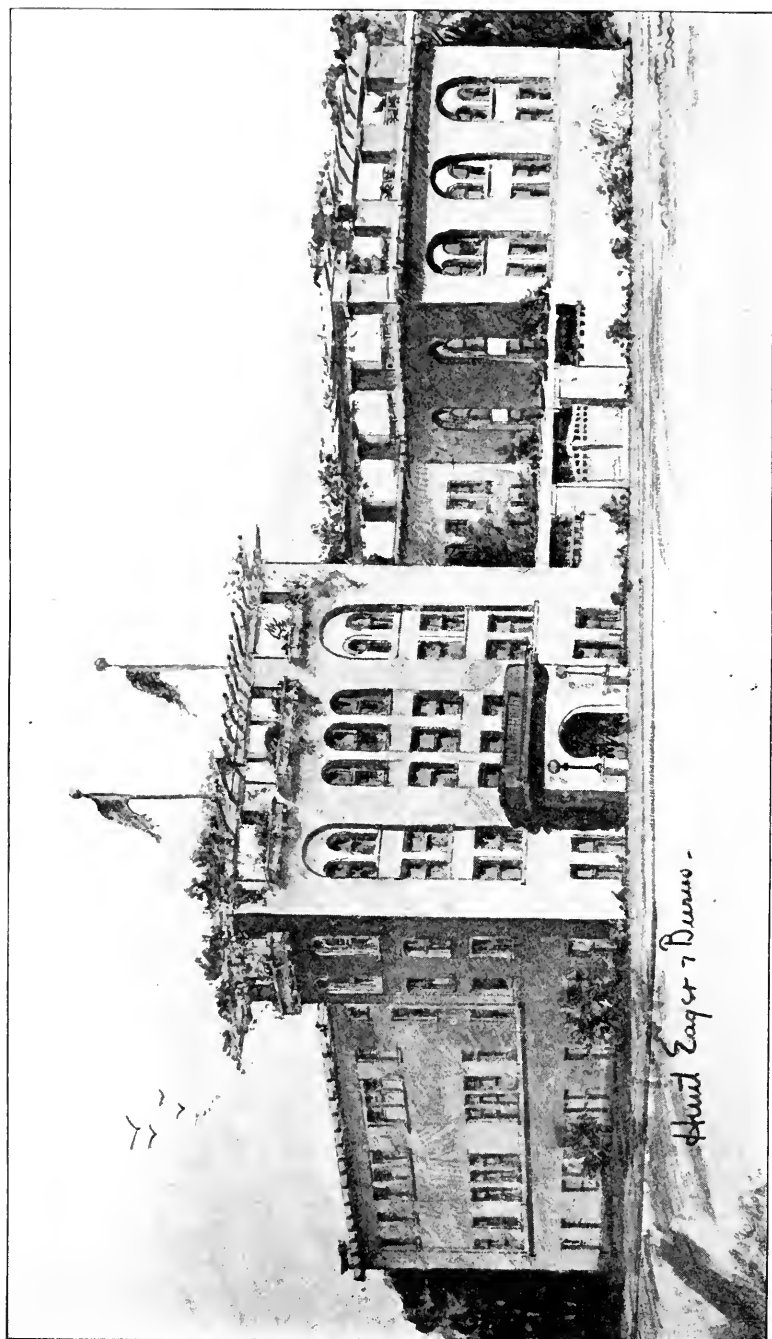


FIELD HOUSE AT ECHO PARK PLAYGROUND
Los Angeles

One of the most valuable features of the work in Los Angeles is the fact that the playground directors live on the grounds. In this connection, Miss Stoddart says:

“We find it most important to have the man in charge of a playground resident upon it. This insures perfect care of the apparatus, and absolutely no interference with grounds when they are closed. Far more than this, however, is the factor of the resident director being a part of the

*Compiled from reports and letters.



Hunt, Eager & Burns -

Courtesy of Playground Commission.

MUNICIPAL RECREATION CENTER
Los Angeles



PORCH OF SUPERINTENDENT'S BUNGALOW RESIDENCE
Los Angeles

neighborhood. He is one with the people. His home becomes a nucleus of social life in the community. The playground possesses the craving feature of the settlement, the home atmosphere and influence.

"In the recreation center, we have an artistic little apartment of five rooms and bath for the resident manager and his wife. At Echo Park Playground, Mr. Best and his sister, Miss Best, occupy certain rooms in the Club House, but a bungalow residence will be erected there the coming fiscal year. So much evening work makes it almost imperative to have residents."



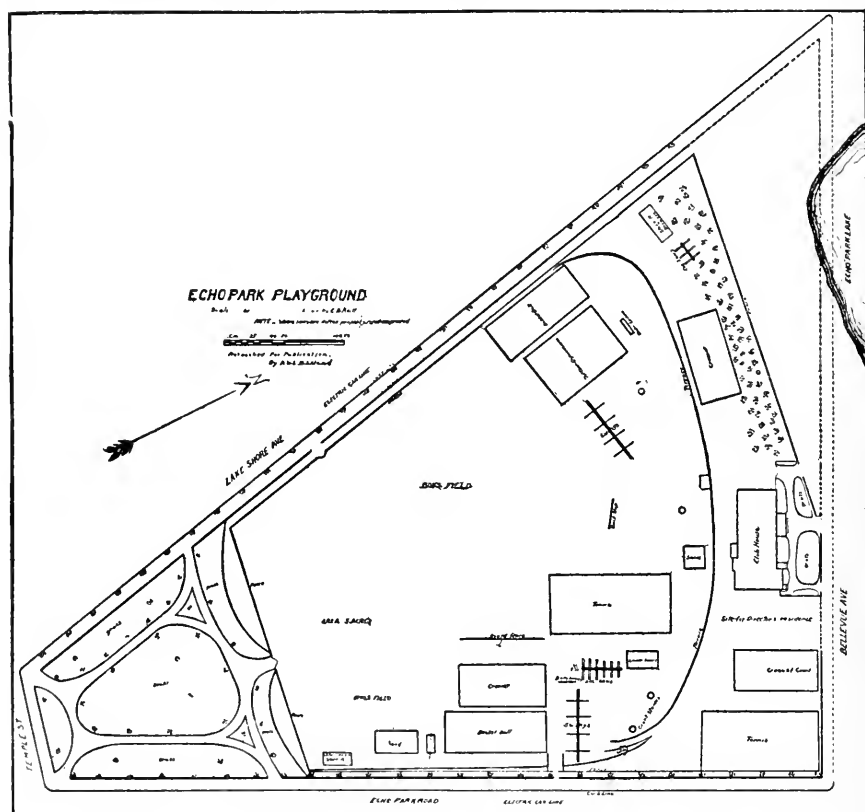
LIVING ROOM OF SUPERINTENDENT
Los Angeles

PLAYGROUNDS NOS. 1 AND 2

The children and young people have enjoyed to the utmost the games, sports, and gymnastic drill, and free play upon swings, see-saws, Maypoles, and other apparatus, which these grounds provide. The little folks have amused themselves in the sand boxes, playing with the large blocks, while the adults have found pleasure in watching all that was going on. Count being taken once during the day of those present, 53,948 represents the attendance for one year.

Little gardens were cultivated to the number of forty-eight, and the children proudly carried home their products of vegetables and flowers. A system of daily marking for care and neatness was instituted, and in June prizes were awarded to those whose gardens showed the most faithful and diligent attention.

The grounds are open all day during vacations, and on Saturdays and holidays, and from two o'clock until dark on school days. On Sunday



PLAN OF ECHO PARK PLAYGROUND

• Los Angeles

By C. B. Raitt, Supt.

afternoons, though there are no match games or gymnasium work, the place becomes a park for the families of the neighborhood. The playground has been open during the noon hour on school days to accommodate the 835 children of the near-by Seventh Street School, where the yards are very small. The kindergarten of the school, too, frequently employs a morning at the grounds. The 300 girls of the Boyle Heights Orphanage, just across the river, at intervals spend a whole day on the playground, bringing luncheon with them.

Interest in girls' games and athletics was greatly stimulated by the creation of the position of assistant, who had charge of girls' work, dividing her time between Playgrounds No. 1 and No. 2. One of the chief features at both playgrounds was the organization of basketball teams. And an interesting outgrowth of this was instruction in sewing, the girls bringing to the grounds material for their suits, and being taught how to make them.

The care of the little children, the leadership of older girls in their games, athletics and gymnasium work, demand that each ground have a woman assistant.

1. VISITING NURSE'S HEADQUARTERS. Adjoining the superintendent's bungalow is the station of one of the city visiting nurses, working under the auspices of the College Settlement, and in close connection with the City Health Department. Besides the district work, this nurse has charge of the school nurse work of the Seventh Street School.

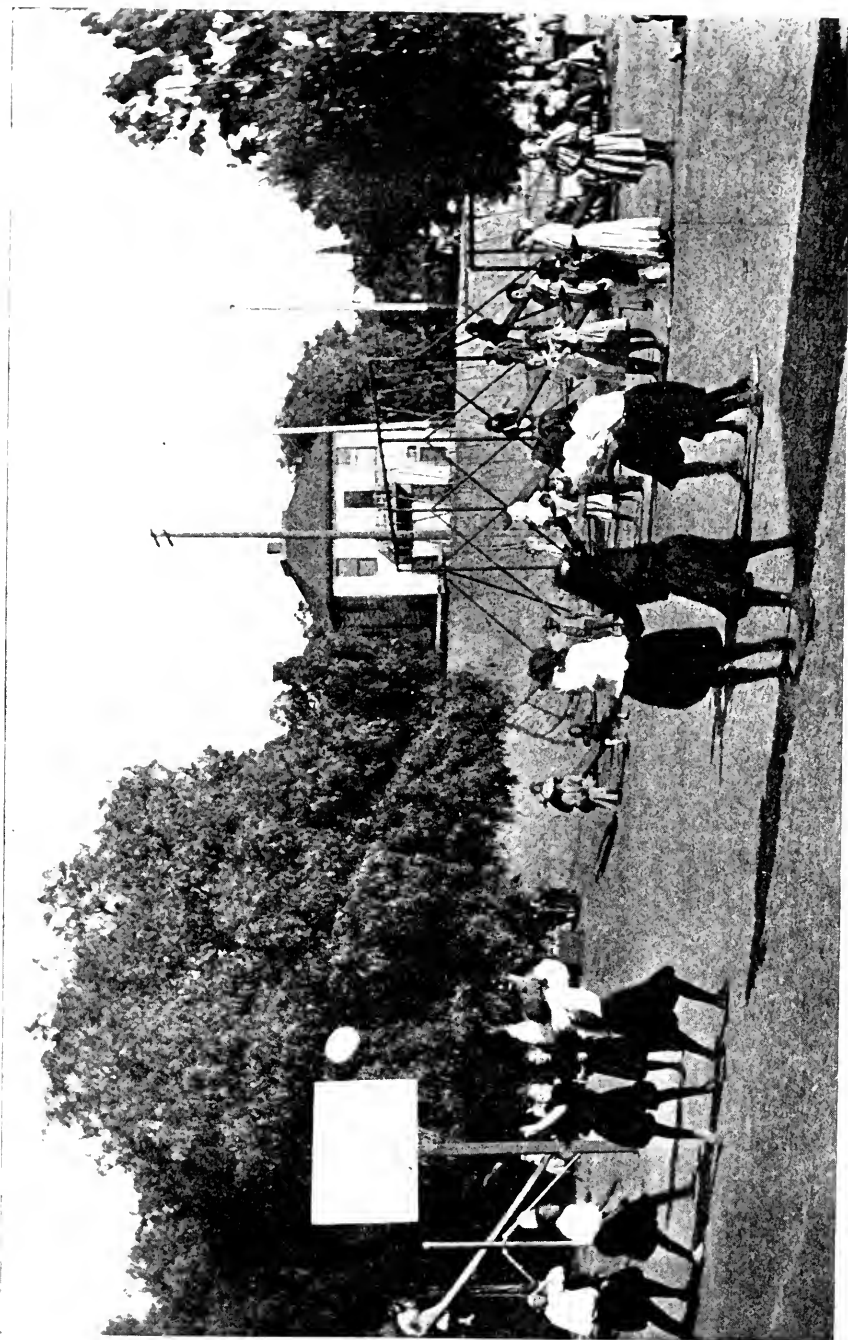
2. CLUB HOUSE. The building for indoor recreation was finished this year. It is an artistic bungalow, the main room of which is about 25 x 36 feet, with one end elevated as a stage. A large open fireplace, many windows and electric lights, together with chairs and tables for grown people and children, make this a pleasant place for meeting. A small club room, a dressing-room, a kitchen and a storeroom complete the house.

3. PLAYGROUND LIBRARY. The work which the Public Library began in the summer of 1906, continued out-of-doors two afternoons a week throughout the winter, but when the Club House was opened it found accommodation there.

We have 183 books from the city library, and about 800 discards. The city books are circulated only among those having regular city cards. For the discards we issue a playground library card. We have issued 551 of these cards.

4. THE STORY HOUR. The story hour has been from the first a source of great interest, and has created a demand for books which otherwise would not have been read. But during the past few months the time has been so taken up at the desk that the stories have been almost entirely discontinued.

5. GIRLS' CLUB. The girl's scrap-book club has been cutting and pasting magazine pictures into books made by themselves. They have made twenty-five.



Photograph by C. B. Ruatt

GIRLS' BASKETBALL—Los Angeles



ECHO PARK PLAYGROUND CLUB HOUSE
Los Angeles

1 story in front, 2 in rear

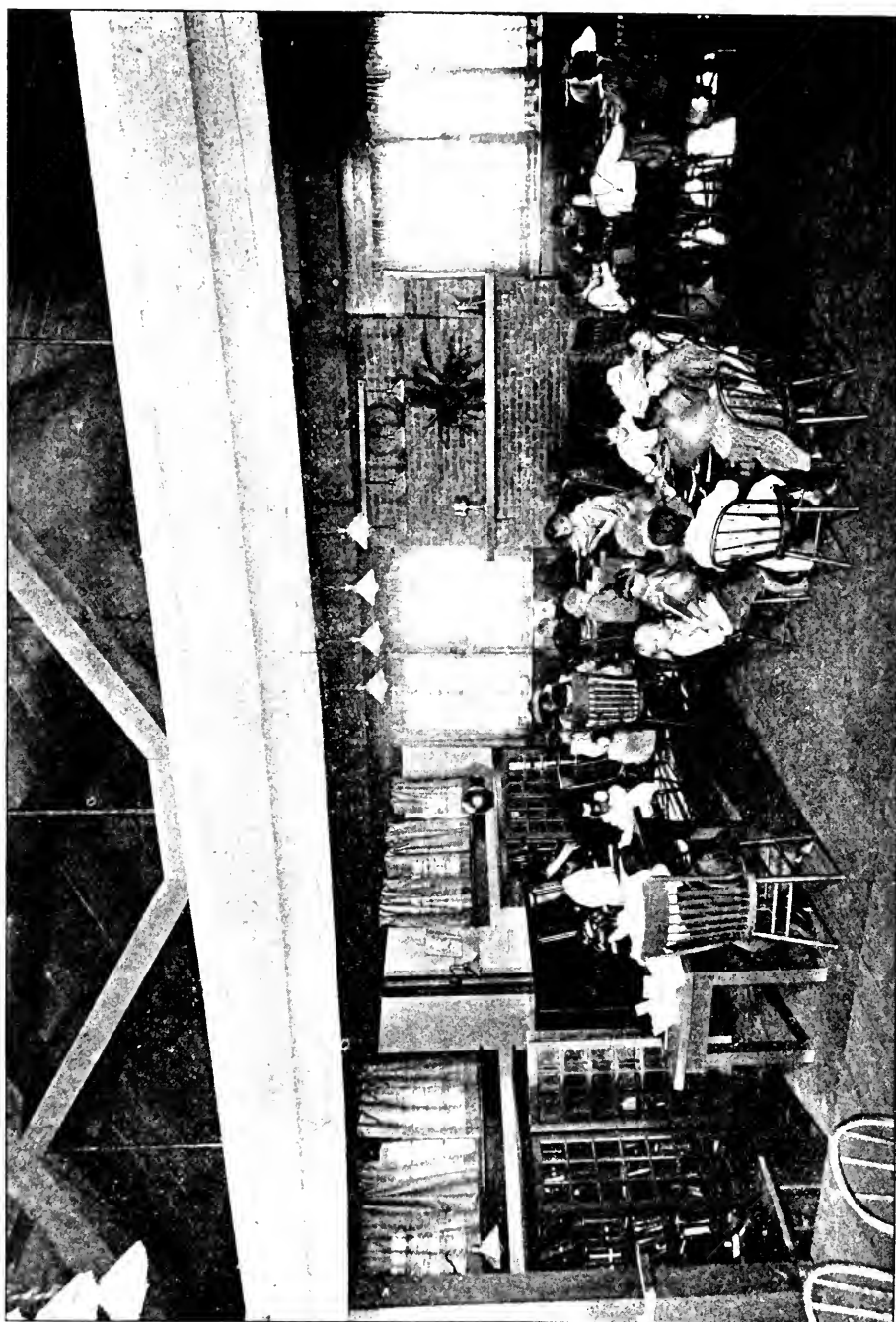
It has been the aim to teach respect for books and the proper care of them, to uphold the dignity of the library, and to inculcate feelings of civic pride and responsibility in all who come in contact with the library.

6. **BOYS' CLUB.** Miss Belle Parsons has been very successfully directing a club of boys from eight to thirteen years of age called "King Arthur's Knights," organized for the study of Knights and Chivalry. There are thirty-four members. They have regular readings from the best books on the subject, and from the study of legends and pictures have made arms and armor and spend a part of each meeting in outdoor practice of knightly games. A grand tournament will be given in December, after which the club will take up the reading of Greek hero tales and their dramatization.

B. CELEBRATIONS DURING THE YEAR

1. **CHRISTMAS.** On December 29th, Christ Church Sunday school entertained about 500 children at the playground. A beautiful Christmas tree was placed outdoors, around which the children's choir sang carols. Mr. Baker P. Lee gave an interesting talk to the young people, after which gifts and candy were distributed. The candy was kindly furnished by Bishop & Company, and Kahn-Beck Company, while Hamburger & Sons provided a share of the toys.

2. **CIRCUS DAY.** On April 10th the Los Angeles *Examiner* gave a children's day at Sells-Floto Circus. About 300 children and 50 adults from the playground neighborhood enjoyed this treat. Mr. Howard E. Huntington kindly furnished four special cars for transportation.



PLAYGROUND LIBRARY—Los Angeles

Photograph by Miss Bessie D. Stadthart

3. **OPENING OF FIELD HOUSE.** On April 13th the new recreation building was formally opened. As public library work was to be one of its chief activities, Doctor Jones of the library staff, and Mr. Giffen of the library board, made the addresses of the day. The pretty bungalow had been decorated by the boys with wild poppies. Tea was served, and the building was inspected by the visitors.

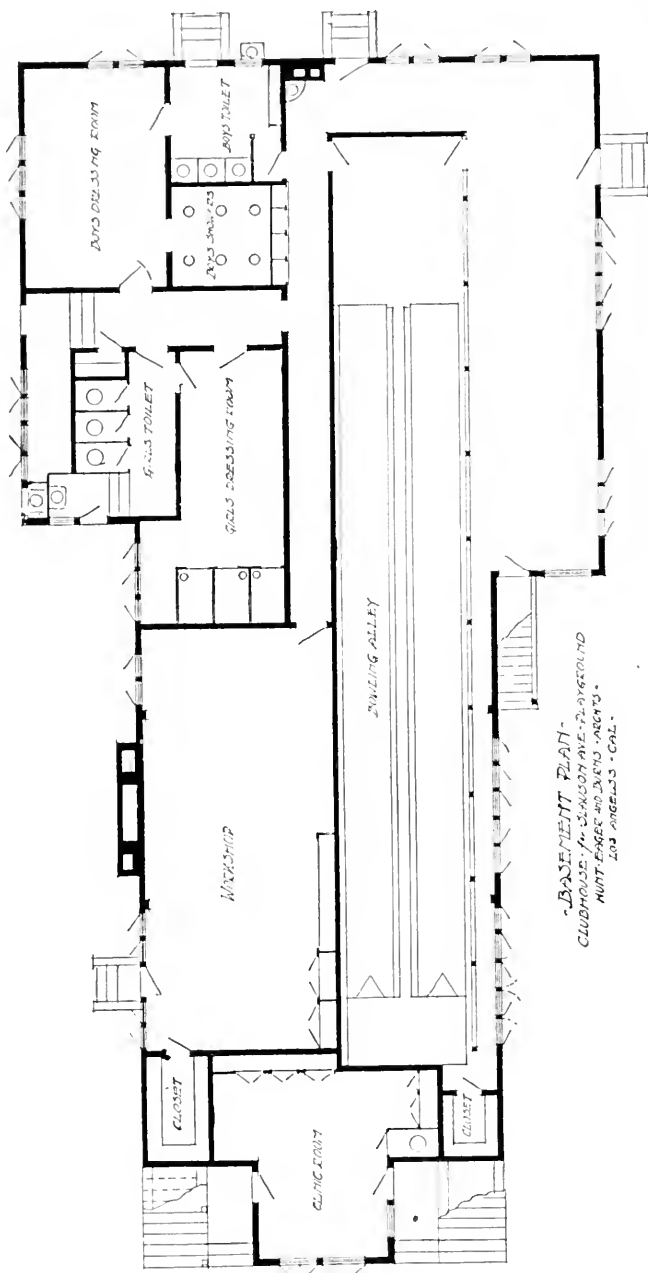


TEETER BOARDS ON VACATION PLAYGROUND
Los Angeles

4. **FOURTH OF JULY.** Park Commissioner Humphreys and Councilman Healy, of the Fourth of July Committee, arranged a band concert for this occasion, together with a patriotic address by Mr. E. J. Harper. The same gentlemen also personally provided, at their own expense, a treat of ice-lemonade for the 500 children present. An interesting exhibition by the Polytechnic Gymnasium Club, led by Mr. O. S. Lowsley, added to the pleasure of the occasion.

5. **ANNUAL INTER-PLAYGROUND TRACK MEET.** On September 14th, to mark the close of the Vacation Playgrounds, teams from Playgrounds No. 1 and No. 2, and from New Macy and Utah Vacation Playgrounds, held an interesting contest, for which they had been training during the summer.

6. **SPECIAL FEATURES.** Other features of the work in Los Angeles are: bowling alleys, pets, such as rabbits, pigeons, etc., aquarium, self-government, physical examinations, lecture course, musical and dramatic organization. At Echo Park Playground there is a boys' brass band, a girls' brass band, a mixed orchestra and a mandolin and guitar orchestra. At the Recreation center there is the choral class and the bugle and drum



-BASEMENT PLAN-
 CLUBHOUSE, 174 SLAUSON AVE., DOWNTOWN
 MONTREAL, QUEBEC, CANADA
 LOS ANGELES - CAL.

BASEMENT PLAN OF CLUB HOUSE AT SLAUSON AVENUE PLAYGROUND—Los Angeles
 (Scale $\frac{1}{8}"$ to 1')

corps. It is planned to have dramatics on all the grounds. Walks into the country and camps are also planned for this season.

The playground is a branch of the public library. It is possible to carry on such a work through the assistance of voluntary helpers who aid the paid workers.

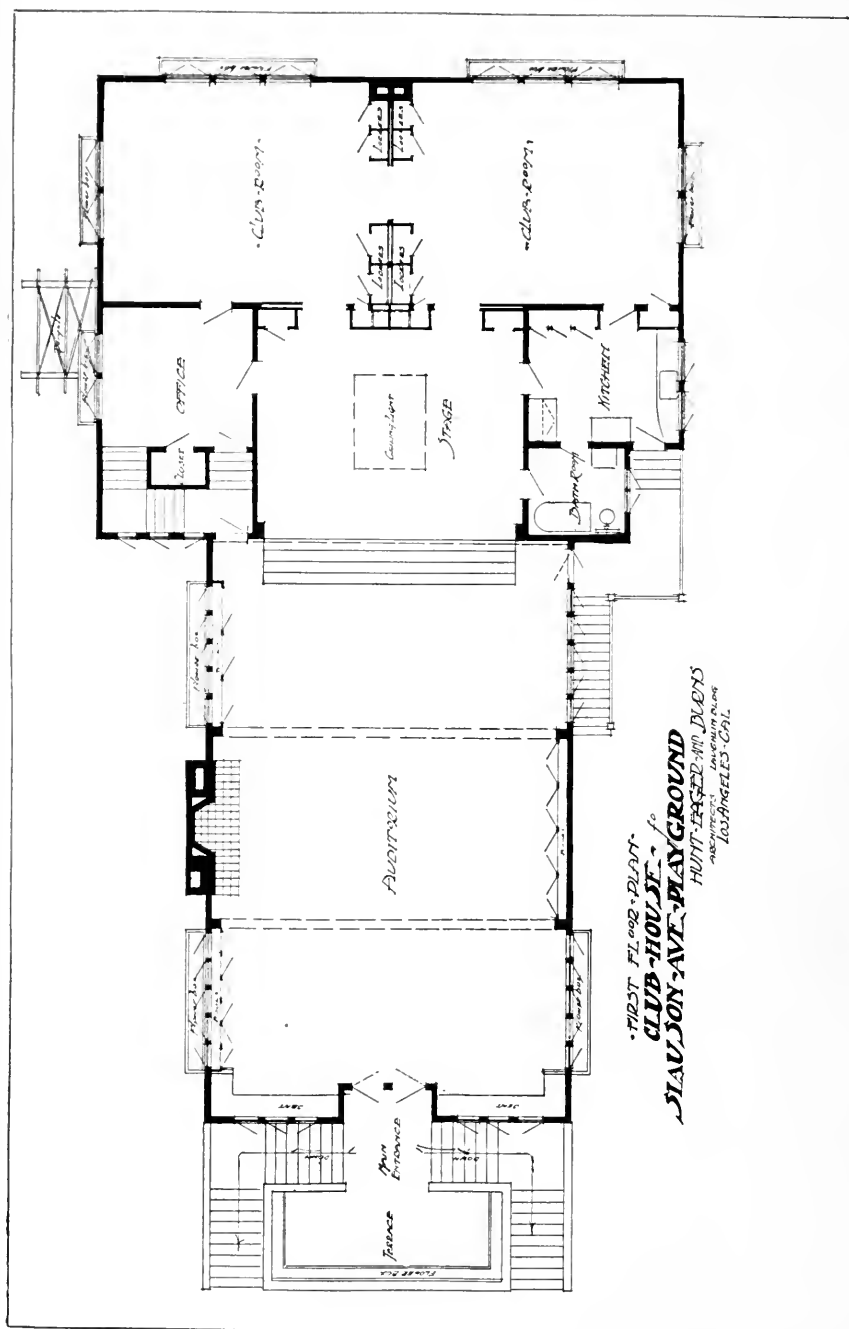
C. LOS ANGELES BUILDINGS

The Chicago buildings are described in Chapter X; more applicable to the small city is the Los Angeles style of building which we are able to show in detail together with plans and specifications. Miss Stoddart says:

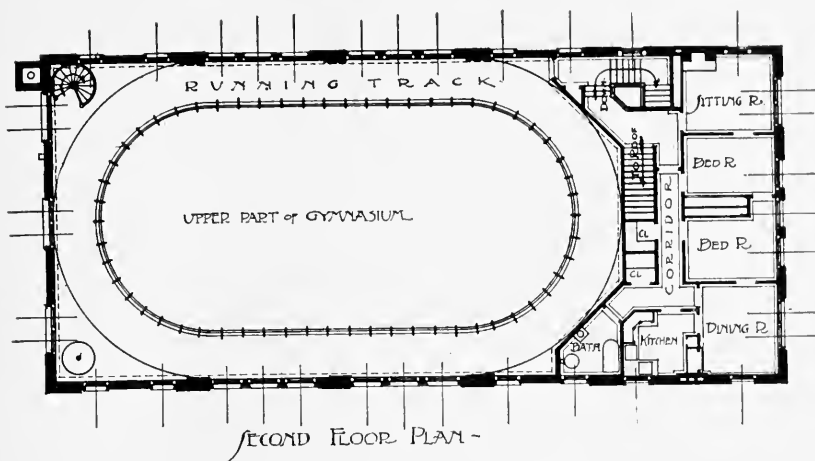
1. CLUB HOUSE. "The contract of our latest club house at Slauson Avenue Playground has just been let for \$8,885. This will be located in a four and one-half acre playground, which will have an equipment of an outdoor gymnasium, ball field, handball, basketball, croquet, play apparatus, gardens, wading pool, and in time a bungalow residence for the director. Planting will surround the building. A feature which we think will prove a great saving in time and exertion is the device for storing the chairs under the stage, when the hall needs to be cleared (which will be the greater part of the time). The steps up to the stage hinge back and trucks under the stage can be pulled out, the folding chairs laid flat on them and the trucks be pushed back out of the way. So the transformation from a lecture hall to drill or club room can be made very quickly. The new club house will have plaster and half timber exterior, as is the case with the club house at Playground No. 2; the club rooms and kitchen will be used for residence of director until his bungalow residence shall be built, as we firmly believe in having the director a resident.

2. RECREATION CENTER. "The cost of the building was less than \$21,000. It was built in the hard times when materials and labor were low and is really about a \$30,000 building. The extra cost of apparatus, running track, bowling alley, lockers, furniture, \$5,600 extra. On the drawings no note is made of mezzanine rooms over the kitchen and library; one is the physical instructor's room for measurements, private shower, etc., the other, a small club room.

"Alterations suggested by experience: I would say that the stage should be wider, and library room and club room in mezzanine larger. We changed the plans as follows: Main entrance basement floor we made one large lobby with stairs ascending (instead of club room and hall as indicated on the plan). Where these stairs lead to the gymnasium, we left out toilet and made wide double doors into gymnasium; also cut doors for outside and ran iron stairway down to the ground. Until other parts of the

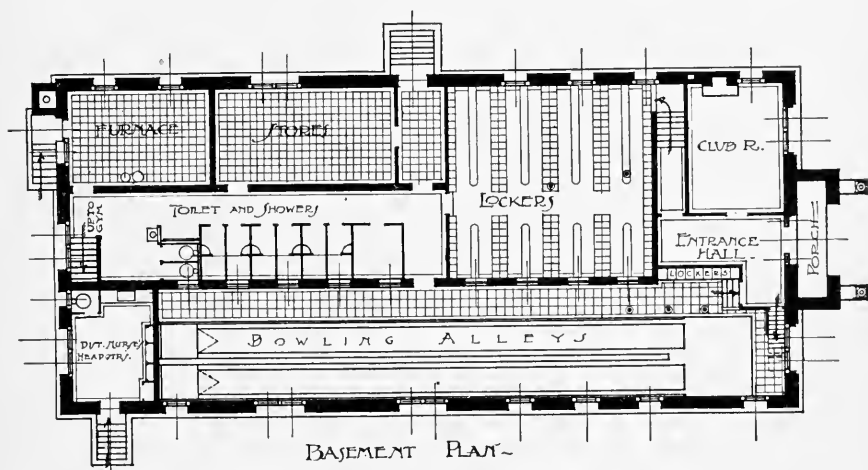


FIRST FLOOR PLAN OF CLUB HOUSE, SLAUJON AVENUE PLAYGROUND—Los Angeles
 (Scale 3/8" to 1')



MUNICIPAL RECREATION CENTER
Los Angeles

HUNT, EAGER & BURNS ARCHITECTS.



PLAN OF SECOND FLOOR AND BASEMENT OF MUNICIPAL RECREATION CENTER
Los Angeles

building are added, present entrance to gymnasium (not indicated on drawing) is with outside iron stairway and porch to large doors in side of gymnasium."

3. SPECIFICATIONS OF MUNICIPAL RECREATION CENTER.

Bids:

Bids will be received as a whole. Also with certain omissions as noted at beginning of specifications.

RESERVATIONS:

There will be reserved from the general contract, the following items:—

The curved form and finished running track floor.

The bowling alleys.

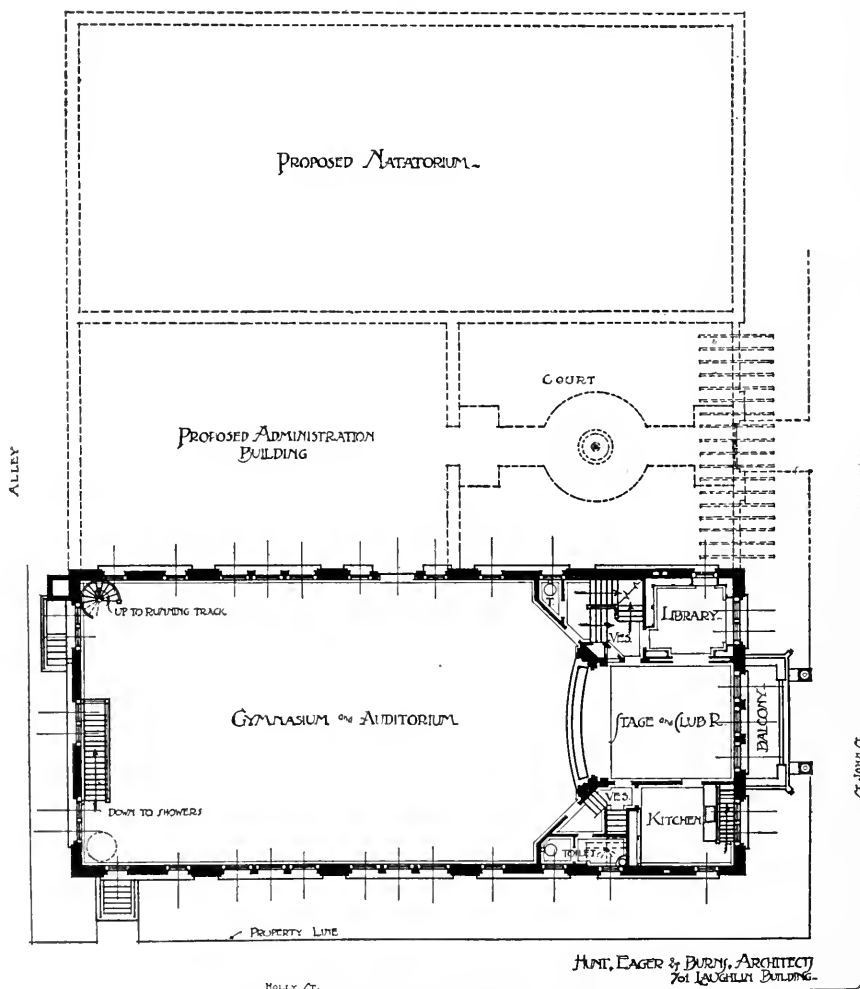
The lockers and seats in locker room.

EXCAVATIONS

(Read General Conditions)

Establish the grade line at the building approximately corresponding with the present grade, as directed by the Superintendent, and excavate for basement and foundations as shown by plans and sections.

PLAYGROUND



MUNICIPAL RECREATION CENTER, LOS ANGELES.

PLAN OF GYMNASIUM, AUDITORIUM AND PROPOSED ADDITIONS

Fill in around the walls after they are up to established grade and settle with water and tamp the back filling well into place.

Deposit such portion of the top soil, as directed by Superintendent, on the premises for use in grading by others, and remove all surplus earth from the premises and adjacent streets.

Should any old vaults or other excavations come within the building area, clean them out and fill in to bottom of basement floor with clean gravel, and thoroughly puddled with water.

CONCRETE

(Read General Conditions)

All footings for walls and piers will be of concrete composed of one part Portland Cement, two parts clean, sharp sand, and four parts crushed stone or screened gravel—all by measurement.

The cement to be of some well-known and tried brand approved by architects; the stone—granite or other hard stone—none larger than will pass through a 2" ring, with the dust screened out.

Thoroughly mix the cement and sand dry, add sufficient water to form a mortar of the proper consistency and thoroughly mix the same, then add the stone or gravel and cut and turn over the entire mass three times until each piece of stone is fully coated with the mortar.

All mixing shall be done on a tight board platform and measurements shall be made by the use of boxes to the satisfaction of the Superintendent. After mixing, dump the mass into the trenches and tamp with a metal paving tamp until the water flushes to the surface and all interstices are thoroughly filled.

Provide good dressed plank forms for all footings and leave them in place until the concrete is thoroughly set. Forms shall not be removed until directed by Superintendent.

Should old excavations be found under walls, fill them from bottom with concrete or provide such reinforcing members in footings as required for support of walls above.

CEMENT WORK

(Read General Conditions)

The floors in basement, marked "Cement Floors" on plans will have a 3" bed of concrete as described for footings and a finish coat $\frac{3}{4}$ " thick composed of three parts cement to five parts sand, troweled down to a smooth, hard, uniform finish and blocked off into squares of not more than 16 square feet.

In the bowling alley, finish the surface of all floors, except under the alleys proper, where the rough concrete bed will be dropped below floor level as noted and left without top surface.

Where Terrazzo floors are noted in shower room, clinic room and entrance vestibule, put in 3" bed of grouting as above specified, leaving the top surface 2" below finished floor line. Grade the floor of shower room to pitch as directed and form the pockets for showers.

In apartments where cement floors are used, form up a cement base all around the walls 6" high, finished with a sanitary cove at floor.

Make cement plinths $\frac{1}{2}$ " wider than trim with face $\frac{1}{4}$ " in front of face of trim.

Steps to outside basement entrances will be of cement, formed up to concrete as for floors with a finish coat $\frac{3}{4}$ " thick.

The outside of brick basement walls which come in contact with the earth to be plastered with a $\frac{3}{4}$ " coat of three parts cement, five parts sand with three per cent by weight of Medusa Waterproofing Compound added to and thoroughly mixed with the cement according to the instructions of the manufacturers, this coating to extend from footings to top of base around building, including wash of base.

Form up copings around basement stairs of concrete and finish the surface, also finish the inside face of walls of step areas.

BRICK WORK

(Read General Conditions)

Foundation walls and area walls for basement entrances up to grade line, and all other walls shown as "brick" on drawings to be built of good, hard common brick, no soft or salmon brick will be allowed on the premises.

All brick to be laid in the best manner of "Shoved" work—i. e., each brick laid down in a thick bed of mortar and shoved into position and all joints thoroughly filled with mor-

tar. Neatly strike the face joints of unplastered brick walls (the inside of brick walls in furnace room and store room will not be plastered). Where walls are to be plastered both exterior and interior, leave the joints rough.

Bond all brick work with headers every six courses in height.

Mortar for brick work in general to be composed of freshly burned, thoroughly slaked and cooled lime, and clean sharp sand in proportions to insure a first-class mortar.

For the outside basement walls below grade line and the area walls, use one-half barrel of Portland Cement to each yard of mortar.

Smoothly strike the joints of inside faces of ventilating stack.

Build all fireplaces and trimmer arches as required by city ordinances.

Line the smoke flues throughout their entire length with fireclay flue lining of sizes shown on plans, and extend these linings 2" above top of chimneys. Provide sheet iron thimbles at all flues where there are no open fireplaces, and clean outs at bottom of flues where directed.

Lay up all walls to a line and level them up to proper heights.

In no case shall any portion of the work be carried more than six feet above that already built, and such work must be racked back 4" on each course.

Leave channels or openings in walls where shown or directed for pipes, etc., wall in all nailing blocks, bond timbers, templates, anchors, lintels, etc., coming in the brick work.

Set the centers for all arches and leave them in place until the brick work is thoroughly set.

Cover the walls for protection from the weather at all necessary times.

Form up the sill courses as directed.

At completion, clean down the faces of unplastered walls, and clean up and remove all masons' rubbish from the premises and streets.

Build the brick portion of mantels as shown by details, and line the fireplaces with fire brick of best quality. Build hearths of brick to correspond with facings.

PLASTERING

(Read General Conditions)

INTERIOR PLASTERING:

The brick walls of furnace room and store room in basement, and the ceiling of gymnasium and the soffits of running track gallery will be unplastered.

The remainder of the interior of the building will be plastered as follows:

Lath the ceilings of furnace room, clinic and shower rooms and stud partition of shower room and bath room and kitchen wainscot with No. 24 Western Expanded Metal lath dipped in Wood Preserving Company's preservative, nailed every 8" with galvanized iron nails or staples, the joints properly lapped and securely fastened down.

Lath all other ceilings and stud partitions with best quality O. P. lath, breaking joints every tenth lath. No loose pieces to be nailed between studding or joists. Lath to be placed $\frac{3}{8}$ " apart and nailed at each bearing with 3d. blue nail.

Plaster the ceiling of furnace room with a first coat composed of six parts well haired lime mortar and one part (measurement dry) approved Portland cement; and a second coat of three parts lime mortar without hair, $1\frac{1}{2}$ parts clean sharp sand and $1\frac{1}{2}$ parts Portland cement (all by measurement dry).

Plaster the walls and ceiling of shower room and clinic room, and wainscot of second story bath and kitchens with Best's Keenes Cement, with a smooth finish for enameling, put on according to the manufacturer's instructions in the best manner. Round the corners and angles in these apartments.

Plastering on wood lath to consist of two coats, the first of brown mortar, composed of Red Star or other lime approved by Superintendent, clear sharp sand, and good long jute mixed in proper proportions and well manipulated.

This plaster to be made up at least ten days before using.

The second coat to be composed of lime putty and clean, screened sand in proper proportions and floated up to a true, straight, uniform surface with a fine sand finish. Office on Mezzanine floor to be a smooth troweled finish.

All exposed angles to have Cook's metal corner strips.

All plastering must be free from stains, blisters, chip cracks or other defects. Plaster close down to the floors, and close up to all grounds and openings.

Put up the ornamental plaster work at stage opening, forming up the columns and molds as detailed, and furnish and put up the capitals and bases of the columns and pilasters

adjacent. Use metal lath in forming up this work, following as nearly as practicable the finished profile with the furring.

Use metal lath over all lintels, channels and at such other points as may be required to prevent cracking of plaster where different materials are joined.

EXTERIOR PLASTERING:

The entire outside of the building will be plastered as follows:

First Coat $\left\{ \begin{array}{l} 3 \text{ parts good lime mortar (no hair)} \\ 1\frac{1}{2} \text{ parts clean, sharp sand} \\ 1\frac{1}{2} \text{ parts in bulk dry, Imported Portland Cement} \end{array} \right.$

This coat to be carefully rodged and trued up and afterward given a slap dash coat, covering the entire surface composed of:

$\left\{ \begin{array}{l} 2 \text{ parts lime mortar} \\ 1\frac{1}{2} \text{ parts sand} \\ 1\frac{1}{2} \text{ parts Imported Cement} \end{array} \right.$

In each coat of plaster use Medusa or Richard's Waterproofing Compound in proportions and as directed by the manufacturers.

The Contractor must guarantee the plastering waterproof and proof against "Salt-petering" or the working out of the alkali from the brick.

Form up and run the label molds over openings.

These label molds, all belt and sill courses and the reveals of all openings to have a carpet float finish.

The exposed corners of basement story and all basement openings, also the entrance to gymnasium shall have metal corner strips well secured into brick joints.

Plaster the outside of penthouses and exposed portions of wall from gymnasium roof to floor of roof garden, also soffit of main cornice, in same manner as brick work, except that a scratch coat composed of six parts well haired lime mortar to one part (dry bulk) of Imported Portland cement shall be used, and the other two coats applied same as on brick. This work to be done on metal lath as above noted. Plaster inside of entrance porch same as exterior walls.

CARPENTER WORK

(Read General Conditions)

The Carpenter is to render all general assistance to Contractors of other crafts that the Architects may consider usual or necessary. He is to prove all measurements (although made by other craftsmen and contractors) which are fundamental to his work.

There is to be no smoking inside of the building, or spitting of tobacco juice on the floors or into the registers.

LUMBER:

All lumber used for framing is to be first quality O. P. All lumber to be used for other purposes to be as hereafter mentioned.

All lumber to be free from saps, shakes, knots, twists or other defects that may render it unserviceable.

JOISTS:

Joists throughout will be of sizes figured on plans, run and spaced as shown.

Joists for running track gallery will be dressed on all exposed faces.

Prepare the floor under toilet and shower room in Mezzanine for concrete and Terrazzo floor.

All joists sized to an even width. Trimmer and trimmer heads are to be double, likewise double joists under cross partitions; all headers carried on Van Dorn metal joist hangers; also certain joists as noted on drawings.

Anchor the joists into the brick walls and tie the anchor joists together over bearings as required by the Building Ordinances. Furnish the anchors and joist hangers.

All joists, including ceilings, are to be bridged with 2" x 3" double cross herring bone style bridging, placed so that the distance between two rows of bridging, or between a row of bridging and a bearing shall not exceed 6' 0"; all nailed with four nails to each piece; lower ends nailed after floor is laid.

Bridge solid over all bearing partitions.

STUDDING:

Studs throughout to be of sizes figured on plans. All studding is to be placed 16" on centers. All openings double studded with double heads properly framed. Form truss braces over openings where the wall or partition carries joist.

Fit in accurately fire stops to comply with the Fire Ordinance.

All studding sized to an even width. All walls and partitions are to be braced and trussed as directed. All bridging to consist of 2" stuff of the width of studding, herring bone style, four nails to each piece, and to consist of two distinct rows in each story.

Provide all required timbering, furring, etc., throughout to make the work complete.

Set $\frac{3}{4}$ " grounds at all openings, except where jambs are plastered round, base and wainscot throughout, to be put on perfectly accurate so as to form a guide to the plastering; ground at floor as well as at top.

RAFTERS:

Rafters of main roof over gymnasium will be 4" x 12", dressed, spaced as shown and secured to the steel trusses by heavy lag bolts at each end.

Rafters for front part of building as figured on plans.

Double all valley rafters.

FLOORING:

All floors are to be double and are to consist of a sub-floor of 1" x 6" surfaced O. P. laid diagonally, joints cut over joists and in same direction, and boards nailed in each edge to each joist. When plastering is finished and interior finish is on, lay down on above one thickness of approved heavy felt paper. Contractor should take care that each width laps another, and the material is not torn up.

The sub-floor of running track will be laid with 1" x 3" matched beaded ceiling, smooth side down. (The curved furring and floor for the finished running track will be put in by the builder of the track.)

On top of the felt paper in the gymnasium, put down a floor of best grade, clear, white maple, boards $\frac{7}{8}$ " thick, $2\frac{1}{4}$ " wide on face. No boards less than four feet long, and butt joints over joists.

Throughout the remainder of building where wood floors are used, lay the top floors off thoroughly dry No. 1 1" x 4" vertical grained O. P.

Top floors to run at right angles to joists where practicable.

Maple flooring to be milled concave on bottom. Maple floor to be thoroughly dressed and smoothed off for finishing after laying. Other floors to have the overwood and raised joints smoothed off to a true surface. Drive up each board tightly and nail thoroughly to each bearing. No weather colored flooring allowed.

All lumber used for flooring to be No. 1 of the best quality, free from saps, knots or other defects and well seasoned.

SHEATHING:

Sheath the gymnasium roof with $1\frac{3}{4}$ " x 6" clear O. P., matched and V-jointed as per details, laid smooth side down and thoroughly spiked to each rafter with three large spikes at each bearing.

Sheath other roofs with 1" x 6" O. P., surfaced and laid close.

Form the grades and valleys and line the gutters close as directed.

EXTERIOR WORK:

Build the cornices, pergola, flower boxes, penthouse, balustrades and other exterior woodwork, as shown by drawings, in the most substantial manner.

Over the finished roof of front portion, put a floor formed of slats as shown, nailed to sleepers and leveled up by blocking from roof below at proper intervals.

Provide and put up the flag poles of selected O. P. as shown. Each pole to have swivel blocks and pulleys of rustless metal and rustless metal chains or cords for operating the flags, with clamp device for securing the cords or chains at bottom.

At the south side of roof garden, where shown, build a sand box of 2" O. P. dressed, made tight with sides 12" high. Slat platform need not extend under this box, but box will be blocked up from roof below and made level.

Furnish and put up the wire screens, pipe rails and frames for same in connection with the roof garden.

All material for this outside work to be best quality R. W.

Slatted platforms to be of O. P. vertical grain, dressed. Other material for roof garden and pergola construction left rough for staining.

Cornices to be dressed. Brackets to be of Staff or Composition of best quality securely put up.

WINDOWS AND SASHES:

All box frames to be made of $\frac{1}{4}$ " O. P. Sills 2" thick. Box frames to have pendulum of No. 24 galvanized iron securely suspended from top.

Generally, unless otherwise specified or shown, all sashes are to be hung with the best braided cotton sash cord and cast iron weights on ball bearing turned $2\frac{1}{4}$ " axle cast face pulleys, which are to be furnished by the Contractor.

All sashes are to be made of sugar pine with ogee extensions to the upper sash. All meeting bars of wide sashes are to be made so as not to bend upon operating either sash. All parting beads plowed into frames.

All windows are to have openings covered by cheese cloth pending the drying of the mortar.

Frames for transom sash will be plain $1\frac{3}{4}$ " frame and sash hung to swing as directed.

DOORS AND FRAMES:

Generally, all interior frames are to be made of $1\frac{1}{2}$ " O. P., carefully blocked at proper positions for the screwing on of hinges. Frames to have $\frac{1}{2}$ " rabbit strip cut therein. All frames of width for lathing and plastering. All frames, unless otherwise noted, are to have hard O. P. door saddles. All interior doors are to be of $1\frac{1}{2}$ " thick sugar or Oregon pine, with horizontal, sunk, flat panels on each side; all prepared for natural finish.

At stair from gymnasium to basement, make good batten doors in three or four sections covering full length of well hole and hinge them at wall side to swing up against wall. Provide them with counterweights, metal cords and pulleys and heavy flush lifts as directed.

The fly doors to toilets and showers will be of clear, seasoned, kiln dried, quartered oak, made with extension stiles top and bottom and slatted between, hung and trimmed by Carpenter with hardware furnished by Owner.

TRANSOMS:

Transoms throughout to be as shown, of same material as sash and same thickness as sash or doors over which they are used.

STAIRS:

Carriages 2" rough O. P., 12" on centers, strongly supported.

Treads of all interior staircases to be $1\frac{1}{2}$ " vertical grained surfaced O. P., exterior edges nosed, interior edges grooved to receive risers.

Risers to be $\frac{3}{4}$ " surfaced O. P., each riser and tread to be housed into strings unless otherwise directed. Whole staircase made as per drawings, in a first-class manner and guaranteed not to creak. Hand rails on wall supported by metal brackets about 3' 0" apart. Balustrade as per drawings.

BOXING:

Box up all soil and other pipes where exposed to view. Furnish the Plumber and Gas Fitter with all the required cleats, shelves and brackets. Do all required cutting for Plumber, and for ventilation and heating.

INSIDE FINISH:

The entire interior of the building is to be finished complete as regards finish and wainscoting, doors and windows and finished plastering, painting and varnishing.

Excepting in clinic room, and second story bath, the entire interior woodwork to be of O. P., selected, clear and perfect, kiln dried, free from all defects and imperfections of any description whatsoever, and made as per detail. All, including sash, doors and transoms, prepared for natural finish by hand smoothing and sand papering. Clinic room and second story bath-room will be finished in clear white cedar for enameling.

Doors to have a hard wood stop knob with India rubber tip. All windows are to have molded stools, aprons and plain square edged stops, except where otherwise shown or directed. Wainscoting, casing and base as per detail.

Contractor shall furnish and put up a pair of "Perfect" sliding doors between stage and club room, with all necessary frames and hangers complete. Also a vertical rolling partition (Jas. G. Wilson Manufacture) at the stage opening.

Form proper coil boxes at sides of opening and fit and put up this partition to work perfectly; hardware to be furnished with same to match other hardware. Rolling partition to be of same material as other interior woodwork.

RUNNING TRACK:

Build the spring girders for running track of clear, thoroughly seasoned, dressed 1" O. P., thoroughly nailed with 10d. nails. Put up the facing and nosing and form the channel for electric lights as directed.

Support the girder by rods and I beams to wall as shown. Furnish and put up the iron standards, railing and wire guard around track; these standards to be spaced approximately 3' 0" apart and bolted securely to the woodwork.

STAGE:

Form up the gutter for footlights and the channel for border lights, and finish the front of the stage as shown.

CUPBOARDS, LOCKERS, ETC.:

The lockers for the main Locker room in basement will be reserved from general contract and furnished by others.

Build all other cupboards, shelves, mantels, lockers, book cases, etc., shown by drawings.

HARDWARE:

The Contractor to allow Two Hundred and Twenty-five Dollars (\$225.00) for all trimming hardware and to prepare an accurate and detailed list of the goods required.

The hardware will be selected by the Architects and after delivery to the Contractor he shall be responsible for and shall apply the same as required in the building.

Contractor is to furnish all nails, screws and rough hardware, sash weights and cords and all pulleys outside of the allowance made for trimming hardware, which will consist of the necessary hinges, locks and trimmings for doors, cupboards and drawers, and the sash locks, lifts and linges, and the screws necessary for putting the trimming hardware in place.

GLAZING:

All glass in the entire building, except as noted, is to be 21 oz. American glass, first quality, free from blisters or waves. All glass to be well timed, puttied and back puttied, to be of No. 1 quality of its kind. Glass in certain windows and doors noted on drawings to be maze pattern.

The glazing is to be done in the best workmanlike manner, and all glass left cleaned, whole and perfect at completion.

SHEET METAL AND ROOFING

(Read General Conditions)

Make and put up securely the vent ducts in basement of No. 24 galvanized iron, joints to be locked and made thoroughly tight.

Line the flower boxes and cover the copings of wood balustrades with same material turned down with drip at edges. Run a 1" pipe outlet from flower box linings as directed.

Furnish and set cast iron register faces at openings into vent ducts of sizes shown—Tuttle & Bailey Manufacture, lattice design—these faces to be white Japanned finish.

Make a galv. iron duct to cold air cupboard connecting with outside under buffet. In outside wall put a galv. wire screen $\frac{1}{4}$ " mesh with wire fly screen behind it. At top connect by galv. iron duct with flue as directed, with fly screen at outlet.

Make all rain water conductors and waterheads of No. 26 galv. iron, conductors $2\frac{1}{2}$ " x 4", brought down to grade and connected with underground leaders put in by others.

Line the gutters for footlights and border lights at stage with I. C. bright tin.

ROOFING:

Cover all roofs with Carey's Magnesia Flexible Cement Roofing. Roofing to be applied by careful workmen in accordance with the instructions furnished. The building to be prepared with dry, surfaced lumber; all knots, nail holes and other projections to be removed from sheathing before application of roofing is commenced. Lay the roofing with

burlap side to the weather. The sheets are to be lapped together fully $1\frac{1}{2}$ " and nailed securely to roof boards with $1\frac{1}{4}$ " flat head galv. iron nails, with head at least $\frac{1}{2}$ " in diameter; care being used to avoid driving nails through cracks. Nails must be driven 2 " apart. After the roofing sheets have been nailed, cement the laps down over the nail heads and seams, making all such connections absolutely water tight. Roof is then to be completed by painting entire upper burlap surface with Carey's Magnesia paint supplied for this purpose. Roof to be guaranteed for a term of ten years.

Cornice covering formed with regular roofing and graded to catch basins over leaders, see scale detail of cornice.

WROUGHT AND CAST IRON AND STEEL

(Read General Conditions)

This Contractor to furnish and set all roof trusses, I beams, channels, angle iron lintels, spiral stairs to running track, outside iron stairs and railings, pipe columns, bearing plates, rods, bolts, nuts and washers, the iron pipe railings around areas, iron pipe sliding pole from running track to first floor, all supports and bracing for apparatus and the light standards at front entrance as shown by drawings.

The anchors, joist hangers and railing, and standards of running track, and railing and screens around roof garden will be furnished by others.

This work to be executed complete in the best manner according to the true intent and meaning of the drawings and these specifications which are intended to include everything necessary, although every item necessarily involved or that may be reasonably inferred be not particularly mentioned.

All steel to be Medium Open Hearth or Bessemer process, bolts and rods of wrought iron, rivets of rivet steel, and all cast work of tough grey iron. Bearing plates to be of steel.

All material shall be in accordance with the manufacturer's standard specifications as to quality and workmanship.

Connections, unless otherwise noted, shall be Carnegie Standard. In construction of trusses, the plates and rivets connecting the various members shall be of size and spacing to develop the full strength of members.

Where pieces are in contact, each surface shall be thoroughly cleaned and given a coat of paint before assembling.

Before leaving the shop all steel and iron work shall be cleaned and painted one coat of paint, and after erection at the building an additional coat. Paint used shall be a first quality preservative (Dixon's Graphite, Detroit Superior Graphite or Lowe Bros. Red Lead Metal Preservative).

Drill the angles of truss for application of bolts for securing rafters and furnish lag bolts for use of carpenter in securing them.

Furnish the steel smoke stack, of $\frac{1}{4}$ " steel plate, 12" diameter, well riveted and provided with steel braces every four feet in height to be walled into brick work and riveted to stack. Rivet on the collar, extending through the wall of stack and extend the steel stack one foot below bottom of collar. Support the steel stack on a $\frac{1}{2}$ " steel plate 36" square, walled into brick work. Under steel stack put a door in plate for cleanout, and a cast iron cleanout door and frame in brick stack just above the basement floor line.

The Contractor shall submit shop drawings of the iron and steel work for the approval of the Architects before the execution of the work.

TERRAZZO AND MARBLE

(Read General Conditions)

The floors of shower room, clinic room, vestibule and hall at main basement entrance and toilet room in Mezzanine will be of best grade Terrazzo, laid in a bed of Portland Cement mortar 1" thick, the wearing coat to be not less than $\frac{3}{8}$ " thick composed of white marble chips and Portland Cement thoroughly mixed, laid on the bed of mortar while the latter is yet soft and trowelled down smooth and even.

After the cement is thoroughly set, the surface of the Terrazzo floors to be rubbed down to a smooth surface and washed clean.

The wearing coat to have such a proportion of marble chips that the finished surface will show at least 75 per cent marble. Cement to be tinted with pigment as directed.

Form up the gutters of shower floors and the risers between showers proper and dressing rooms, and pitch all floors in shower room toward gutters about $\frac{1}{8}$ " to 1' 0", and the gutters toward waste outlets.

Round the edge of riser slightly to prevent chipping.

In the shower room in Mezzanine put a good bed of concrete 4" thick under the Terrazzo floor with waterproof paper under the concrete turned up in such a manner as to prevent seepage while putting in floors.

In the shower room, the walls all around, except where marble stalls make it unnecessary, shall have a 6" x 8" marble base, and the door trims shall have marble plinths 1 1/2" thick, 8" high and width of trim.

Doors opening into shower room shall have cast iron thresholds covering the joint between the Terrazzo floor and the floors adjacent.

In the entrance vestibule and hall and clinic room furnish and set 6" marble base and plinths as above described of a warm tone and quality equal to the best Tennessee marbles. The toilet room with Terrazzo floor will have good wood base.

Secure all base and plinths in place by screws and secret fastenings in the best manner.

The base and plinths in shower room to be of same marble as stalls.

The shower and toilet partitions and stalls in shower room will be of best quality white Italian marble of size shown by drawings, 1/2" thick supported on galv. iron standards of heights shown and provided with all necessary angle clamps, railing standards, spring hinges for fly doors, rubber tipped bumpers and door strikes.

The shower stall in Mezzanine story will be of same material, but partitions shall extend to floor instead of resting on standards, and a slab 9" high shall be placed at entrance to shower stall for protection from splashing.

The fastenings for fly doors will be N. P. turnbuckle easement fasteners, as per plate 99-P Sargent's Catalogue, 1902. Tops of stalls to be braced from ceiling or with continuous rail as directed.

All of the above and other necessary brasses to be plain brass, nickel plated, equivalent in style and finish to that shown in Catalogue "B," Ahrens & Ott Mfg. Co., pages 69-90-91.

Brass work to have double head bolts throughout, and be put up in the neatest manner.

ALTERNATIVES:

As an alternative for the Terrazzo floors, proposals will be received for first class Ceramic Mosaic of thoroughly vitreous tiles not larger than 3/4" square.

In general the fields shall be white with neat borders approximately 12" wide of such colors and design as approved by Architects. Foundations for these floors will be put in by General Contractor to within 2" of the finished floor line.

This Contractor to fill in to required height with cement and sand in equal parts, and bed the tiles and point the same with clear cement mortar.

All cement to be best quality Portland of brand approved by Architects.

Tiles to be well hammered down to a true and even surface and cleaned with sharp sand and a soft wood board and left in perfect condition.

Contractor to submit designs to Architects for approval before ordering tiles or beginning work.

Also as an alternative for White Italian Marble for stalls, proposals for best quality Pink Tennessee, and for marble base a white glazed tile base, 6" high with sanitary cove at bottom.

PLUMBING AND GAS FITTING

(Read General Conditions)

FIXTURES:

In the various apartments, furnish and set up the following fixtures:

CLINIC ROOM:

One Douglas Gloria, low down combination water closet, complete as shown by *plate No. 112, with dark cherry woodwork.

One, 20" x 30" Standard, P-1200, roll rim enameled cast iron sink, with back (in one piece) supported on concealed wall hangers with combination plug and strainer, Fuller adjustable flange bibbs, concealed galv. air chambers and N. P. brass P trap, vented in the rough.

SHOWER ROOM:

One, Standard "Ortho" Lavatory, P-533, with slab, "D" pattern bowl, back and overflow in one piece, with Standard Torrance pattern N. P. brass Fuller faucet, with china

*Not illustrated in this volume.

handle and index P-651, with N. P. brass supplies, supported on concealed hangers, with N. P. brass P trap, vented in the rough, with waste plug coupling and rubber stopper complete (*plate P-553) lavatory to be enameled all over.

Two, Douglas "Reliance" low down combination water closet with cherry woodwork and extra heavy "Clinto" ware syphon jet bowl complete with flush connection and N. P. brass supply as shown by *plate 166.

One, cast plate glass urinal slab, 5' long, 5' high, $\frac{3}{4}$ " thick, with 1" perforated galv. supply extending entire length and arranged to spread the water uniformly over the slab.

At bottom furnish and set a standard urinal stall gutter of galv. cast iron, P-1700 with screen and spigot end for 2" outlet, with 2" trap vented, and connected with main soil pipe by 2" waste.

Six, Individual showers, and four showers for shower room as shown.

Showers shall be of the rain bath type with 5" removable face, adjustable ball joint and combination valve with $\frac{3}{4}$ " mixing column, $\frac{1}{2}$ " supplies and controlling valve with detachable key on mixing column. Each shower to be fitted with "Equality" perfect mixing shower valves complete (Haines, Jones & Cadbury Manufacture, Philadelphia, Pa.).

Shower stalls to have outlets in gutters as shown through brass combination floor drains and traps of approved design with detachable strainers and be connected to soil pipe by 2" wastes.

FIRST STORY TOILET ROOMS:

In each, One, Douglas "Gloria" low down combination as described for clinic room, excepting the woodwork, which will be of oak instead of cherry.

In north toilet room, One, Standard "Chelsea" corner lavatory complete, enameled all over, with supplies, waste, trap, faucets and fittings complete as described for lavatory in shower room. (See *plate P-555).

FIRST STORY KITCHEN:

One, Standard 20" x 30" flat rim sink, enameled inside with faucets, fittings, trap, etc., complete as specified for clinic room.

MEZZANINE TOILET ROOM:

One, "Gloria" combination water closet as specified for first story toilet rooms.

One, shower complete, as specified for individual showers in basement.

OFFICE (MEZZANINE FLOOR):

One, corner lavatory, complete, as specified for first story toilet room.

SECOND STORY BATH:

One, "Gloria" combination water closet as specified for first story toilet rooms.

One, Standard "Ortho" lavatory P-553, as specified for shower room.

One, Standard "Ionian" bath tub, P-147, No. 2 zinc white finish outside, with Standard Fuller double bath cock No. 4 $\frac{1}{2}$, offset supply pipes and connected waste and overflow, all N. P. brass and rubber stopper (P-304). Tub to be 4' 6" long.

SECOND STORY KITCHEN:

One, Standard enameled sink 20" x 30" with supplies, waste, trap and fittings complete as specified for first story kitchen.

One, flat rim enameled inside Standard laundry tray with N. P. soap dish, waste plug, coupling and rubber stopper, N. P. Fuller adjustable flange bibbs, waste and vented S trap as shown by *plate P-1296.

PIPING:

Contractor to see to and pay for putting in a 1 $\frac{1}{2}$ " water service from ——— Street at most convenient point with box and iron cover for shut off at curb line.

From this point extend to basement under windows. At this point take off a 1" branch for outside hydrant service and turn back outside of house and extend in both directions to serve four outside hydrants located near the four corners of the building, and provide $\frac{3}{4}$ " garden hose hydrants at these points as directed.

Continue 1 $\frac{1}{2}$ " pipe from point of division to a point near heaters with 1" connection to each and 1" branch to front part of building, with $\frac{3}{4}$ " branches to each room in which water

*Not illustrated in this volume.

is used. Detached fixtures may be supplied with $\frac{1}{2}$ " pipe. Continue a $\frac{3}{4}$ " pipe up to roof garden where directed and provide hose bibb for roof garden use.

Carry a 1" pipe to showers, with $\frac{3}{4}$ " branches and $\frac{1}{2}$ " connections to each separate shower.

Branch to urinal and connect with the perforated pipe at that point, and with each fixture in basement.

From one gas water heater carry a $\frac{3}{4}$ " pipe to the six individual showers in shower room with $\frac{3}{4}$ " branch to lavatory and sink in basement, and $\frac{1}{2}$ " connections to each fixture.

From the other gas heater carry a $\frac{3}{4}$ " pipe to the four showers in shower room and continue to front end of building and up to second story with $\frac{1}{2}$ " branches to each shower, lavatory, bath tub, laundry tray and sink.

The supplies for showers to be carried over marble stall partitions and the branches brought down to mixing valves as directed. All to be properly supported from the marble work by metal supports of approved design. Any cutting or boring of marble for securing of these valves, pipes or supports shall be done by the marble cutter at the expense of the plumber, who shall arrange with the marble cutter to do the same at the time.

All supply pipes to be of standard wrought galv. iron, with galvanized fittings.

All soil and waste pipes to be of standard cast or wrought iron, dipped in asphaltum (no wrought pipe larger than 2") the joints in cast pipe well varned run with lead and caulked. Connect the main soil pipe with the sewer in Holly Street by 5" vitrified sewer pipe laid with uniform grade with no pockets, the joints properly cemented and left uncovered until inspected by the Architects as well as the Plumbing Inspector.

Trap all fixtures with traps most suitable for the locations where not specially provided heretofore. All traps to have trap screws.

Back vent all traps and run all soil, waste and vent pipes in strict accordance with the sanitary rules governing such work in the City of Los Angeles.

The Plumber must present to the Architects the certificates of the Plumbing Inspector before the work will be finally accepted.

All piping to be run in such manner as not to interfere with head room in basement or with the structural qualities of the building at any point. No joists must be cut, notched or bored at a greater distance than one foot from its bearing unless the approval of the Superintendent is obtained before so cutting, and the Plumber shall confer with the Architects or Superintendent as to the most desirable runs for pipes.

STAND PIPES:

Plumber to provide and pay for a fire protection connection with street main and bring direct into building, and carry to points indicated on several plans with outlets as follows:

- Two, in basement.
- One, in first story.
- One, in Mezzanine.
- One, in second story.
- One, on roof.

This stand pipe to be 2" from main to top, with no connections except those for fire hose. Connections for fire hose to be $1\frac{1}{2}$ ", and at each one furnish and put up complete with valves Howard Swing Hose Racks (or equivalent) (Fig. 8, Cat. 1904), with fifty feet of hose to three outlets and seventy-five feet to the remaining three. All hose to be No. 1 Underwriters' linen hose $1\frac{1}{2}$ ", and each outlet to have a suitable brass nozzle.

Hose racks in basement corridor and first story polished brass; others painted.

HEATERS:

In basement where shown, furnish and set up Two Latest Improved Automatic Gas Water Heaters with a guaranteed capacity of six gallons water per minute each heated from normal winter temperature of city water supply to a temperature of 140° Fahr.

These heaters to be the "Pittsburg" or its equivalent in the judgment of the Architects and approved by them before installing, and must be put up in strict accordance with the instructions of the manufacturers and under the direction of the manufacturer's representative. They must be installed under a written guarantee to perform the work required of them to the full satisfaction of the Architects, and failure to fulfill the requirements will be considered as sufficient cause for their removal at the cost of the Contractor and the retention of a sum sufficient to reimburse the Owner, for any and all expense or damage incurred in their installation and removal.

Connect the heaters by proper sheet iron pipes for conveying the fumes out through the wall into a galv. iron riser 8" square on outside and up above roof. This vent riser to be made of No. 24 gauge iron, supported with metal bands and hooks from the wall on the outside.

GAS FITTING:

Pipe the building throughout for fuel gas with 2" main line from meter to water heaters and 1½" branches to each heater.

Branch to the various rooms and locate the outlets where shown on plans and cap them for future connection.

Pipe sizes and fittings to be in conformity with the city rules and regulations. A certificate from the City Gas Inspector will be required by the Architects before final acceptance.

All conditions as to running of piping and cutting of joists, etc., as noted for Plumbing shall apply to Gas Fitting.

PAINTING

(Read General Conditions)

This Contractor shall examine carefully the drawings and specifications for the various branches of the work. All painting, staining, varnishing and finishing other than provided for therein shall be considered as a part of his contract.

The woodwork of roof garden (not dressed) shall be stained two coats in a first-class manner with stains approved by Architects. The slatted floor of same, and all dressed exterior woodwork and staff shall be painted three coats pure white lead and linseed oil, the first coat thinned down for a priming coat.

The galv. iron conductors and waterheads to be painted one coat pure red lead and two coats lead and oil and be sanded as directed.

Wood balustrade over main entrance to be sanded.

The exposed portions of roof trusses and other interior iron and steel work showing after completion to be painted two coats white lead and linseed oil.

The under side of sheathing and rafters over gymnasium and the soffits and dressed joists of running track to have two coats pure linseed oil, the first coat with a light stain.

The walls and ceiling of shower and clinic rooms and the wainscot of first and second story kitchens and second story bath room will be sized with glue or varnish sizing, a sufficient number of coats to prevent further absorption, and will then have four coats white lead and oil and be finished with two coats Ripolin Enamel put on in the most skilful manner and showing a uniform gloss without brush marks at completion.

The woodwork in clinic room and second story bath room will be shellaced, then finished with four coats lead and oil and two coats enamel as above noted.

The woodwork in shower room to be stained with oil stain filler and varnished two coats best quality interior varnish with one coat Flatline.

Kitchens and toilet rooms to be finished in same manner.

Other woodwork throughout to be finished with oil stain filler and have one coat best wood alcohol shellac and be rubbed to a dull finish.

All colors for stains and paint will be selected by the Architects.

Putty stop all nail holes and other defects. Examine the woodwork carefully before beginning and where necessary sandpaper and remove any machine marks on the finish and doors, and leave the whole in a perfect condition on completion.

Oil the floor of gymnasium one good coat pure linseed oil well brushed on. Also the treads of stairways.

Risers to be finished same as other woodwork.

ELECTRIC WIRING

(Read General Conditions)

ELECTRIC LIGHTS:

Wire building for lights at all points marked —0— on plans, with capacity for number of 16-candle power lights marked on plans, and wire to roof garden for an extra capacity to carry twenty lights.

SWITCHES:

All switches specified "S. S." to be Hart Surface Snap switches, and those specified "P. S." to be Diamond H. Hart flush push button switches.

Bring in feed wires from side of building to meter located where shown in South Lobby; branch from here to distributing points in basement and second story. At each place provide cutout board of Catalina marble with glass panel door in front and batten door in back and locked with cylinder lock with two keys, and where located the different cutouts for the adjoining circuits, and these feeds to be three-wire and to have three pole knife switches with plug fuses forward of same mounted on cutout board with the necessary capacity in each case.

Provide gravity knife throw switch and plug cutouts forward of same, with capacity of 200 amperes for lighting system, and all enclosed in neat box with glass panel door.

Run feed wires from meter to stereopticon outlet, these wires to be three-wire feeds and all of same size and capacity for 25 amperes. Put in cutout with plug fuse back of meter and at outlet put in 25 ampere three-blade knife throw switch and lugs for wire attachment enclosed in metal box with cover.

All main feed wires up to distributing points will be on the three-wire system enclosed in cutout box of Catalina marble back and marble sill, with all necessary cutouts and switches as hereinafter specified, said board to be enclosed in neat case of O. P. with glass door and fastened with cylinder lock and two keys.

LOCATION OF SWITCHES:

Basement:

Bowling alley, outlet at pin end of alley by key switch at head of alley.

Other five outlets by key switch adjoining same.

Front entrance, outlets on post at inside door P. S.

Vestibule, ceiling outlet at inside front door and door to hall, three-way, P. S.

Hall, at door to vestibule and head of stair, three-way, P. S.

Club room, at door to hall, P. S.

Clinic room, at door to outside, P. S.

Clinic entrance, at inside door, P. S.

Locker room, eight outlets at door to shower room, S. S.

Side entrance hall, at door to storeroom, S. S.

Side entrance, at inside side door, S. S.

Storeroom, two outlets at door to side entrance hall, and door to shower room, three-way, S. S.

Furnace room, outlet near window, S. S.

Shower room, two corridor outlets at door to side entrance and at head of stair in Gymnasium, three-way, P. S.

Five other ceiling outlets at foot of stair, S. S.

First Story:

Footlights, By 2 double pole knife switches on board operating outlets alternately.

Arch, By 2 double pole knife switches on board operating outlets alternately.

Gymnasium, two arc pendants by 2 double pole knife switches on board.

North Lobby, between door where shown and head of stair in Mezzanine story, three-way, S. S.

South lobby, at door to gymnasium and door to club room, and head of stair in Mezzanine story, four-way, S. S.

Stage, two ceiling outlets and two side outlets at door to south lobby, P. S.

Club room, ceiling outlet at door to south lobby, P. S.

Gymnasium, four side outlets at head of rear stair and door to side entrance and door to south lobby, four-way, P. S.

Kitchen, at head of stair and opposite wall, three-way, S. S.

Gymnasium outside entrance, at inside door.

Running Track:

Outlets on under side of running track to be run in molding and to have porcelain molding sockets of approved pattern put in and operated alternately from cutout box by 2 double pole knife throw switches.

Mezzanine Floor:

North hall, at foot of stair and door to office, three-way, P. S.

Office, at door to hall, P. S.

South hall, at foot of stair and door to shop, three-way, P. S.

Shop, ceiling at entrance door, S. S.

Second Floor:

Office, ceiling outlet at door to hall, P. S.
 Dining room, at door to hall, P. S.
 Kitchen, at door to hall, P. S.
 Corridor, at door to bed room, P. S.
 Bath room, at door to hall, P. S.
 South Hall, at door to office and foot of stair, three-way, P. S.

MOLDING:

All molding where used under running track to be made of O. P. and well shellaced to comply with N. B. of F. U. and according to detail.

WIRE:

All wire supplying current to lights to be Roebbing White Core of the best drawn copper, not less than 97 per cent conductivity, and no wire less than No. 14 B. & S. gauge, and any larger than No. 8 must be stranded.

Wires to be of ample size to carry current without heating, and to conform to N. B. of F. U., and allowing a drop of not more than one-half of one per cent on all feeds and circuits.

CIRCUITS:

No branch circuit shall control more than 10 lights.

All branch circuits so arranged as to give two separate branch circuits in each room. Joints made electrically perfect and then soldered without using acid and re-insulated.

Put in sockets for footlights on stage and arch and also sockets on beams as before specified under running track. These sockets to be of approved make.

Where two or more switches come together, use gang plates and all switches where practicable to be located in casings. All switches to be enclosed in iron boxes.

SIDE LIGHTS:

All side lights to be 5' 8" from floor.

BELLS:

Put push button with escutcheon at front entrance to ring a 3" bell in second story hall.

All work to be done in accordance with the Rules of the City of Los Angeles and Contractor to pay for permit and get certificates of inspection from City Electrician.

4. SPECIFICATIONS OF CLUB HOUSE.**BIDS:**

Bids will be received as a whole, with three alternate bids as follows: One to leave out all woodwork in clinic room except outer structural walls and do only the roughing in of plumbing in this room; one to omit outside plaster, leaving T. & G. with no covering except the paper; and one to use O. P. floor same as noted for club room instead of the maple specified for auditorium.

EXCAVATIONS

(Read General Conditions)

Excavate for ground floor and for foundation wall footings as shown on plans, and fill in around walls after completion.

All soil taken from excavations will be evenly distributed just outside of building on all sides.

MASON WORK

(Read General Conditions)

Build general foundation walls and piers and chimneys of good, hard, red brick. No salmon brick allowed, all bricks wet before using. All work well bonded and all joints well filled with mortar.

General mortar is to be composed of a standard brand of lime acceptable to the Architects, and good, coarse sand; mixed in proper proportions and well manipulated with $\frac{1}{4}$ barrel of cement added to each cubic yard of mortar, cement added only as used; all

exposed work will be fairly even color hard burned brick and all outside joints laid in colored mortar with raked joints and inside exposed work laid in regular mortar and neatly trowel pointed as directed. All wood sills bedded in mortar.

Outside of all brick walls from footings to grade line plastered with $\frac{1}{4}$ " coat of cement, one of cement to two of sand, troweled smooth.

Flues to be of the sizes shown, and flues in rear chimney lined with terra cotta flue lining, joints set in fire clay; flues in main chimney carefully plastered.

Rough opening in fireplace will have $\frac{1}{2}$ " x $2\frac{1}{2}$ " tie bar over rough opening, with ends turned up 2" into brick, opening in finished facing to have channel iron over. Fireplace will be faced with Simons' 12" brick tile, laid in same mortar noted for other exposed brick work.

Fireplace will be built with fresh air inlet and hot air flue connected to iron back, as shown on detail, and hearth paved with brick tile same as noted for facing.

Contractor will guarantee draught in fireplace.

CONCRETE

(Read General Conditions)

Entire ground floor will be paved with concrete; rough work $3\frac{1}{4}$ " thick, made of one part cement to seven parts clean, coarse gravel and sand; mixed twice dry and twice wet, well tamped into place. Finish coat $\frac{3}{8}$ " thick, made of one part cement to one of sand, troweled smooth and marked off in 2' 0" squares.

Outside steps leading down into ground floor, lower flights leading up to terrace over clinic and all entrance areas made of concrete same as above. Chimney caps concrete same as above.

All cement left natural except chimney caps, which will be colored to match brick. All entrance areas have grating in floor to allow water to drain into sand. Cement man will build in sleepers furnished by bowling alley men and put in cement as instructed by them.

CARPENTER WORK

LUMBER:

Framing timber to be first quality, sound, dry O. P., and of the sizes and spacing noted on plans or as noted below.

Main floor joists 2" x 10", 16" centers. Main floor joists under stage will run on same level as on auditorium floor, and stage floor joist of 2" x 6", 16" on centers, will be blocked up from floor under stage on three rows of 2" x 4" studs, 16" on centers, with top and bottom plate of 2" x 4", all as per details.

Entire building above brick walls as shown on sections will be constructed with exposed skeleton frame, which, with the exception of first floor joists, will be surfaced timber up to level of top of main wall plates and as more particularly shown on drawings, and rough timber above this level.

The surfaced timber will be mill surfaced and clean and smooth enough to take oil finish. The rough timber in auditorium will be selected, sound, true stuff; all of sizes and spacing noted on plans; and this timber, particularly in trusses, will be sized to even dimensions so abutting pieces can be neatly joined. The general studding will be 4" x 4", spaced as shown on plans, with 2" x 4" sills, plates and cross pieces. The general rafters will be 2" x 4", 32" on centers, and the ceiling joist of club rooms, stage, etc., the same.

IRON WORK:

Provide all necessary structural iron work as shown on truss detail, and also plates under truss posts and pins under basement posts.

FRAME AND ROOF COVERING:

Cover outside walls from sills on brick walls to roof plates with 1" x 6" clear, sound, dry V-joint O. P. boarding, surfaced on inner side, put on vertically and nailed twice to each sill, cross piece, diagonal and plate. Cover this boarding up to top of ground floor windows with waterproof sheathing paper well lapped, and then put on the $1\frac{1}{2}$ " R. W. boards shown for timber effect, these to be of rough lumber on outer face and rebated to receive plaster as noted later. Walls above this will be covered with paper same as noted above, then stripped horizontally with rough 1" x 3", 12" on centers, to receive shakes and then with split R. W. shakes 3' long and 6" wide, nailed to stripping, 4 nails to the shake

and 12" to weather, and set alternately above and below a true line as shown on elevations.

All rafters, including eaves, will have 1" x 3" shingle strips 4" apart for shingling.

Cover all roofs with best sawed R. W. shingles, laid 4½" to the weather; no shingle wider than 8" and each shingle nailed at least twice to each course.

Flash and counterflash around chimneys with redipped stamped tin, painted on each side with two coats metallic paint before using.

SHEET METAL WORK:

Lay all valleys with 15" galvanized iron and furnish all necessary flashing of redipped stamped tin. Put galvanized iron gutters on all eaves as noted on plans, with 3" round leader to ground (no ornamental gutter heads), except leader shown on main chimney, which will be 2½" x 5", with box head as shown. Cover small flat roof over with galvanized iron.

All galvanized iron No. 26.

OUTSIDE PLASTER:

Outside walls when marked "Plaster" are furred with ¼" x 1" strips put on vertically 8" apart, and then lathed with Steelcrete Expanded Metal No. 24 steel lath, redipped, and put up with lapped joints, fastened with galvanized iron staples 8" apart, or closer in special cases if needed. This work to be plastered as follows:

First Scratch Coat	{ 6 parts well haired mortar 1 part in bulk, dry, Approved Portland Cement
Second Coat	{ 3 parts mortar without hair 1½ parts clean, sharp sand 1½ parts in bulk, dry cement

This second coat to be carefully rodged and given a slap dash coat thrown on to cover entire surface, this last to be in proportion of two parts mortar, 1½ parts sand, 1½ parts cement. All this outside plaster will be treated with Medusa Waterproofing Compound, using six pounds to one barrel of cement, this to be thoroughly mixed with the dry cement.

In mixtures with cement in them, enough only to be mixed at one time that can be used up in an hour.

Clean all splashes from wood and brick work.

EXTERIOR FINISH:

Eaves rafters left rough same as on main roof; all bracket or other exposed timber work rough O. P., but all must be dry and sound.

Flower boxes are 1" rough R. W., with 1" hole in bottom at each end, painted on inside with hot asphalt.

Casings of main floor portion and porch rails, sill courses, etc., are surfaced R. W., and ground floor casings are rough R. W., as previously noted for timber effect.

FLOORS:

Cover all main story floors except auditorium with No. 1, 1" x 4" T. & G. O. P., blind nailed, butt joints face nailed; all joints dressed as soon as laid. Lay under stage on main joists a floor of No. 2, 1" x 6" T. & G. O. P. Cover auditorium with 1" x 3" T. & G., ends T. & G., best grade white maple flooring.

Auditorium, club rooms, office and stage floors scraped and sandpapered for oil finish.

Floor of front terrace over clinic room same material as noted above, for club room, etc., joints heavily leaded before laying. This floor painted one coat by carpenter and then covered with No. 6 canvas, stretched tight, well turned up against walls and down over edges, fastened with copper tacks. The landing of stairs to this terrace made same as main floor, and between landings and main floor under steps carpenter will lay light boarding and cover with No. 26 galvanized iron, carefully flashed to make water tight, and on this will lay carriages for steps.

STAIRS:

*Outside steps will be 1½" vertical grained O. P. treads, ¾" O. P. risers, all nosed and molded and cut between strings. The two flights from landings to terrace floor will be put in so they can be removed. Inside stairs will be same as noted above.

INTERIOR BOARDING:

Inside partitions will be same character as outside boarding, but will be double surfaced, also have V-joint on each face (see below). Ceilings of all rooms in main story will be 1" x 10" clear, dry O. P. boarding, with rebated channel joint.

The partitions enclosing showers and at back and sides of basins and urinal to height of 5' 0" will be left rough on inside to receive woodstone covering.

DOORS, WINDOWS AND SCREENS:

Door and window frames are fully shown by scale details.

Outside doors 1 $\frac{3}{4}$ " thick, as per detail, of selected O. P., with 2" vertical grained O. P. sill; other doors 1 $\frac{1}{2}$ " thick five-panel Colonial pattern flat panel stock O. P. Doors marked "S. D." are sash doors.

All sash are 1 $\frac{1}{2}$ " thick and are casement sash to swing out unless otherwise noted on plans, except transoms, which will be hinged at bottom, lipped over T. bar, and swing in.

All glass double thick, first quality, common.

Put up screens where marked "S;" all sugar pine with copper bronze wire. For hinged windows they will be the same size as sash and for double casements arranged to slide sideways past each other.

In auditorium the screens will be on transoms only and will be fixed in place with hooks and eyes.

Screen doors as shown, 1 $\frac{1}{4}$ " thick sugar pine, same wire as window screens. All screen doors have wood panels below and screen above.

Put screen wire over all vent openings. All screen doors to have $\frac{3}{8}$ " metal rod on each side of screen wire to protect wire from pushing. Located as directed. All screen wire copper bronze.

The sash over stage will be glazed with opaque glass and will be hinged and operated with cord and pulley as shown.

INTERIOR FINISH:

There will be no base and no easing, except as shown on door and window details.

Build mantel shelf, bookshelves and general cupboards, seats, etc., as shown on plans and details; all of clear, dry O. P. The cupboards in general built of 1" x 6" V-joint T. & G., same as partitions, and all cupboard doors will be T. & G. same as partitions.

The sink drain board in kitchen will be 1 $\frac{3}{4}$ " sugar pine; drain board graded to sink and also grooved.

All drawers will have side guide strips and be fitted to work smoothly. All seats will have hinged lids and inside finished. All bookshelves and shelves in club room and stage cupboards made adjustable.

HARDWARE:

Contractor will furnish all structural and finishing hardware, the latter to cost Two Hundred and Fifty Dollars (\$250.00) for the building and to be selected by the Architects.

Sliding door hangers will be furnished by Contractor and can be of any good make satisfactory to the Architects.

WOODSTONE:

Inside face of all shower rooms will be covered with woodstone, connected to cement floor and left in water tight condition. The backs and side of walls around basins and urinal to height of 5' 0" will also be covered with woodstone.

SKYLIGHT:

Will be as shown, built with metal frame of No. 26 galvanized iron with iron bar stiffening, anti-drip bars and wire glass; all properly flashed.

PLUMBING AND GAS FITTING

(Read General Conditions)

FIXTURES:

In the various apartments furnish and set up the following fixtures:

CLINIC ROOM:

One Douglas "Gloria" low down combination water closet, complete as shown by plate No. 15 D, with natural oak woodwork.

One 20" x 30" Standard P-1200 roll rim enameled cast iron sink, with back (in one piece) supported on concealed wall hangers, with combination plug and strainer, Fuller adjustable flange bibbs, concealed galvanized air chambers and N. P. brass P. trap, vented in the rough.

GIRLS' TOILET ROOM:

One Standard "Ortho" Lavatory, P-553, with slab, "D" pattern bowl, back and overflow in one piece, with Standard Torrance pattern N. P. brass Fuller faucet, with china handle and index P-651, with N. P. brass supplies, supported on concealed hangers, with N. P. brass P. trap, vented in the rough, with waste plug coupling and rubber stopper complete (*plate P-553), lavatory to be enameled all over.

Three Douglas "Reliance" low down combination water closets with natural oak wood-work and extra heavy "Clinto" ware syphon jet bowl complete with flush connection and N. P. brass supply as shown by *plate 97 D.

GIRLS' SHOWER ROOM:

Three showers of the rain bath type with 5" removable face, adjustable ball joint and combination valve with $\frac{3}{4}$ " mixing column, $\frac{1}{2}$ " supplies and controlling valve with detachable key on mixing column. Each shower to be fitted with Speakman's Anti-Scalding mixing shower valves.

Shower stall to have outlets in gutters as shown through brass combination floor drain and trap of approved design with detachable strainers and be connected to soil pipe by 2" wastes.

BOYS' TOILET ROOM:

Three closets same as noted above for girls' toilet, and one 5' 0" urinal trough complete as per plate 1651 Standard Catalogue P.

BOYS' SHOWER ROOM:

To have six showers same as noted for girls' shower, except to omit the adjustable ball joint, floor to have outlet same as noted for girls' shower.

DETACHED LAVATORIES:

One outside of boys' toilet and one outside of girls' toilet same as noted for girls' toilet, and one in hall near boys' toilet will be the "Chelsea" corner lavatory, complete as per plate 555 P, with fittings same as noted above for other lavatories.

MAIN STORY KITCHEN:

One Standard 20" x 30" flat rim sink, enameled inside, with faucets, fittings, trap, etc., complete as specified for clinic room.

MAIN STORY BATH:

One "Gloria" combination water closet as specified for clinic room.

One Standard "Ortho" lavatory P-553, as specified for girls' toilet.

One Standard "Ionian" bath tub P-147, No. 2, zinc white finish outside, with Standard Fuller double bath cock No. 4 $\frac{1}{2}$, offset supply pipes and connected waste and overflow, all N. P. brass and rubber stopper (P-304). Tub to be 5' 0" long.

All supplies to have valves at each fixture.

PIPING:

Owner will bring 2" water service to within 10' 0" of house line near closet under office stairs.

Contractor will take 1 $\frac{1}{2}$ " pipe from this to house and put shut-off in closet, and then run on with 1 $\frac{1}{2}$ " pipe to boys' shower room, from which take 1" pipe to each group of showers and $\frac{3}{4}$ " pipe to each other group of fixtures.

Detached fixtures, except showers, may be supplied with $\frac{1}{2}$ " pipe, individual showers $\frac{3}{4}$ ".

There will be no water heater installed, but hot water piping will be carried from point marked "Heater" in work room to all showers and to tub and basin in bath rooms and to kitchen and clinic sinks.

Same regulations as to size of pipes for hot water as for cold.

All supply pipes to be of standard wrought galvanized iron, with galvanized fittings, except that all piping of shower fixtures—that is, all pipe exposed to view in shower rooms—will be nickel, and all supply fitting at fixtures will be nickel.

*Not illustrated in this volume.

All soil and waste pipes to be of standard cast or wrought iron, dipped in asphaltum (no wrought pipe larger than 2"), the joints in cast pipe well yarned, run with lead and caulked.

Connect the main soil pipe with the cesspool where shown by 5" vitrified sewer pipe laid with uniform grade with no pockets, the joints properly cemented and left uncovered until inspected by the Architects, as well as the Plumbing Inspector.

All changes in direction of waste pipe will have Y's with screw caps, and change in direction of sewer will have Y's plugged with cement.

Trap all fixtures with traps most suitable for the locations where not specially provided heretofore. All traps to have trap screws.

Back vent all traps and run all soil, waste and vent pipes in strict accordance with the sanitary rules governing such work in the City of Los Angeles.

The Plumber must present to the Architects the certificates of the Plumbing Inspector before the work will be finally accepted.

All piping to be run in such manner as not to interfere with head room in basement or with the structural qualities of the building at any point. No joists must be cut, notched or bored at a greater distance than one foot from its bearing unless the approval of the Superintendent is obtained before so cutting, and the Plumber shall confer with the Architects or Superintendent as to the most desirable runs for pipes.

STAND PIPES:

Plumber will run from the 2" pipe outside of building a 1½" pipe direct to points marked "F. H.," one in each story—no branches to any other points, and at each one furnish and put up complete with valves Howard Swinging Hose Racks or equivalent (Fig. 8, Cat. 1904), with fifty feet of hose to each outlet. All hose to be No. 1 Underwriters' linen hose 1½", and each outlet to have a suitable brass nozzle.

Hose racks painted.

GAS FITTING:

Pipe the building for fuel gas where shown on plans and cap them for future connection.

Pipe sizes and fittings to be in conformity with the City rules and regulations. A certificate from the City Gas Inspector will be required by the Architects before final acceptance.

All conditions as to running of piping and cutting of joists, etc., as noted for Plumbing shall apply to Gas Fitting.

PAINTING

(Read General Conditions)

EXTERIOR WORK:

The surfaced casings of main story and porch rails, etc., and outside of all sash and doors, except main entrance to auditorium, are painted a primer and two coats lead and oil paint.

The first story casings and timber effect, and all eaves, rafters, timbers, etc., are rough and will be given two coats oil stain, except eaves soffits can have one coat only.

The shake walls and shingle roofs one heavy coat oil stain; canvas floor of front terrace over clinic room and all wood platforms and steps will have two coats lead and oil paint.

INTERIOR WORK: (Main Story)

The entire wall and ceiling surface of interior of main floor is surfaced wood, and all timber and finish up to under side of trusses surfaced, and all timber above under side of trusses, rough.

The boarding will have one coat of oil with light stain, and all timber work and trim will have one coat of darker oil stain.

FLOORS:

Floor of auditorium is maple and stage, office and club rooms O. P., given one coat of suitable filler and one coat white shellac.

Floor of bath room will be painted two coats.

GROUND FLOOR:

There will be no finish in work room, and no finish on any of the ceilings of ground floor.

The walls of bowling alleys and hall and clinic and boys' dressing room treated same as noted for main story.

The walls of boys' and girls' toilet rooms, and girls' dressing room, boys' and girls' shower rooms, except the woodstone on walls, will be given one thin coat of paint, one coat of shellac and two coats paint and one coat of enamel.

GENERAL DIRECTIONS:

Clean all spots from glass, hardware and floors.

All inside and outside work cleaned free from dust before applying any coat of finish.

All work, inside and outside, puttied with putty, colored to match stain.

ELECTRIC WIRING

Wire the building throughout for electric lights with outlets located where marked on plans —0—, and with capacity for the number of 16-candle power lamps marked at outlets. Materials and workmanship must conform to the rules of the N. B. of E. U. and the City Ordinances governing electric work.

LOCATION OF SWITCHES:

Switches to be located where shown on drawings. In certain cases the lights controlled by switches are connected by dotted lines.

FIRST FLOOR:

Main entrance, from switchboard in closet of office.

Auditorium, each pair of outlets in each bay between trusses and ceiling lights of stage by a switch at switchboard. (4 switches).

Stage footlights, each receptacle by a switch at switchboard.

Border lights, alternate lights (two circuits) by switches at switchboard.

Office, switch at door near stairs.

Club rooms, switches (two to each room) located near doors where shown on plan.

Landing (Outside), between auditorium and kitchen, from point inside auditorium entrance door.

BASEMENT:

Entrances to clinic room, both by one switch near entrance door.

Clinic room, ceiling lights by switch near entrance door.

Workshop, two switches, one at outside entrance door, the other at bowling alley entrance.

Bowling alley, two switches in cupboard under stair, one for alley lights, the other for those in lobby portion. Light at runway of alley by switch at outside entrance door.

Girls' dressing room and toilet, switch in closet off of corridor.

Corridor light, same location.

Boys' dressing room, showers and toilet, same location.

Light at outside side entrances to basement by switches inside entrance doors.

Lights at head and foot of main stairs, three-way switches at basement entrance and near head of stairway.

WIRE:

All wire supplying current to lights to be of the best drawn copper not less than 97 per cent conductivity. Insulations to be Roebbling White Core.

Wires to be of ample size to carry current without heating and to conform to N. B. of E. U., allowing a drop of not more than $\frac{1}{2}$ of 1 per cent on all circuits, and no wire shall be less than No. 14 B. & S. gauge, and any over No. 8 will be stranded.

FEED WIRES:

Run in feed wires from point outside to meter under main stairs, where provide a three point gravity throw knife switch of ample capacity for all current in building, and also cut-out forward of same. From there continue feed wires to the switchboard, providing cut-outs on each circuit. All these feed wires to be three wire, thoroughly sweated into lugs at main switch.

SWITCHES:

Wall switches to be Diamond H. flush push button switches.

Switches for lights controlled from switchboard will be throw knife switches of best quality. Where two or more switches come together use gang plates.

All switches to be provided with iron switch boxes firmly set in position.

Switches to correspond in finish with other hardware.

Where shown, provide two Diamond H. flush wall receptacles at sides of stage for portable footlights.

Provide complete a 25 ampere Lane, Bryant, or other make approved by Architects, Stereopticon receptacle on tie beam of truss where noted on first floor plan. Wire to this outlet from switchboard and control with knife throw switch at switchboard. Wiring for this outlet to comply with City Ordinances.

SWITCHBOARD:

In closet of office set up a switchboard, with slate or Catalina marble back and sides, sill and top of sufficient size to readily accommodate the main feed switch and all switches and fuses for other circuits.

Enclose switchboard with glass panel door, fitted with cylinder lock and three keys. Electric Contractor to pay for casing in this opening, hanging of doors, etc.

All bus bars and other metal work to be fully finished.

CIRCUITS:

No branch circuit shall control more than 10 lights. The wires generally to run in O. P. moldings, well shellaced and neatly placed so as not to disfigure the wood in any way, and cleaned off ready for painter.

METER:

Locate meter under main entrance stairs at side.

PERMITS:

Contractor to pay for and procure permit and inspection certificates from City Electrician before Architects' certificates will be issued.

D. LOS ANGELES PLAYGROUND APPARATUS. (HOME MADE.)

1. Swings at Violet Street Playground, 11' and 14'.

Length 42'.

Spread 20'.

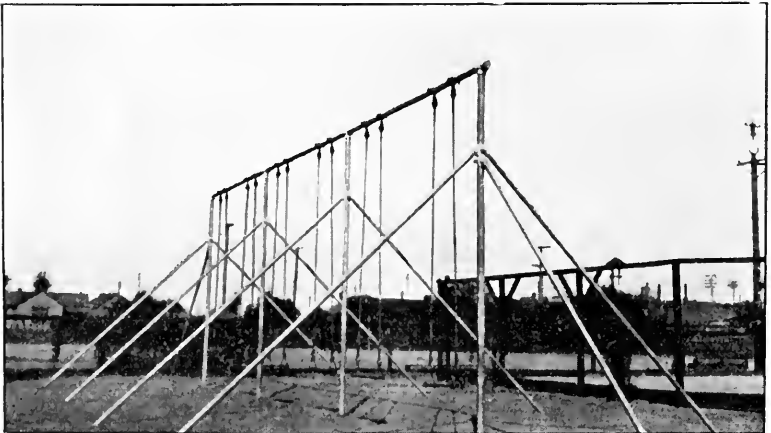
All galvanized pipe.

Uprights 3".

Braces 2".

Set on cement by bolted flanges.

Photograph and figures by C. B. RAITT.



SWINGS AT VIOLET STREET PLAYGROUND
Los Angeles



OUTDOOR COMBINATION GYMNASIUM
Los Angeles

2. Style of Outdoor Combination Gymnasium at Vacation Grounds.

Contains

- 2 inclined ladders, 2" galvanized pipe.
- 2 sets inclined chutes, 2" galvanized pipe.
- 1 steel core horizontal bar.
- 1 swing.
- 1 pair flying rings.

Cost erected, \$160.00.

Photograph and figures by C. B. RAITT.

3. Outdoor Gymnasium at Echo Park Playground.

Cost:

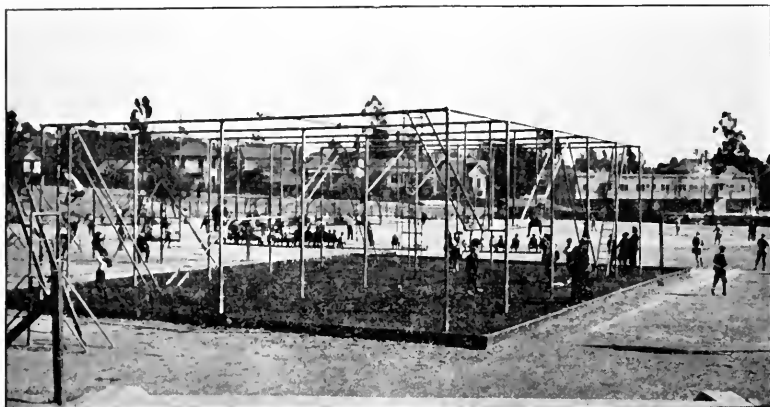
All galvanized pipe (3"), ladder 2" pipe:	
Pipe for frame work	\$435.00
Ladders, chutes, etc.	175.00
Tan bark	395.00
Swinging apparatus:	
Flying rings, traveling rings, horizontal bars, rope ladder	135.00
Erection complete	\$1,175.00
Size of gymnasium frame, 40' x 60' x 14'.	
Size of the tan bark area, 12' x 50' x 70'.	

Photograph and figures by C. B. RAITT.

4. Teeter Ladder.

- Frame of 2½" galvanized pipe.
- Braces, 1" pipe.
- Height 8'.
- Width 2'.
- Rectangle base, 2' x 12'.
- Ladder part, hickory.

Cost complete, \$35.00.



OUTDOOR GYMNASIUM AT ECHO PARK PLAYGROUND
Los Angeles



TEETER LADDER
Los Angeles

PART IV

THE PHILOSOPHY OF CONSTRUCTIVE PLAY

CHAPTER XIX

THE PLACE OF CONSTRUCTIVE PLAY IN THE DEVELOPMENT OF THE INDIVIDUAL AND THE RACE AS CONTRASTED WITH ATHLETIC AND SOCIAL PLAY

BY ARTHUR LELAND, B.P.E.

A. VALUE OF TWO TYPES OF PLAY

1. **ATHLETIC AND SOCIAL PLAY.** Athletic and social plays have to do largely with the relation of man to his fellows, and conditions of hygiene. We do not think that their importance has been over-estimated, but we think that the place which constructive play holds has been under-estimated. Under the term constructive play we have arbitrarily included the relations of child to nature, and to inanimate objects and animals other than the human kind.

2. **CONSTRUCTIVE TEAM PLAY.** We see no reason why constructive play should not contribute as much to the loyalty of the individual to the crowd, to the gang, and to the nation as has been claimed for team games. Team play in construction strikes us as being infinitely more valuable than team play in war; the citizen who saves lives for his country is a greater patriot than the one who destroys.

3. **INTELLIGENCE DEVELOPED THROUGH WEAKNESS.** Biologists say that man's intellect has been created by his hands, and that the training of the hand has been due to necessity. It is well stated that necessity is the mother of invention. Ages and ages ago there was an insignificant animal, helpless, unprotected. It had no shell like the turtle or clam; it had no claws like the cat or tiger; it had no horns like the cow; it could not run like the horse; so being made unable to protect itself by any of these means it did just what we would do under similar circumstances, when pursued it took to the trees. After living in trees for awhile it found that by taking a stick it could knock over a few weak things, like rabbits or birds. Some time seeing a cocoanut drop down it imitated the force of Nature, then it learned to throw rocks, finally to use stones for digging the soil. It is doubtful if any of these lessons were ever learned without a life and death struggle.

The human race is what it is today on account of weakness. The clam and the turtle got inside their shells and there they are today. The cat could get its living easily and protect itself from enemies with its sharp



"LET THE CHILDREN HELP PUT UP SWINGS"

Reward the helpers with first swing

claws and it has never advanced. The horse and the cow had an easy time and they are working for us now. Through necessity, experiment, and invention, the human race has advanced.

The systems or persons who deny to the child the chance and method of doing for himself what the race has done for itself is robbing him of his birthright.

Education at the call of necessity alone, however, is too expensive. Nature shows this to us when she gives us the receptiveness of childhood, but to produce the best results in play education Nature's methods of necessity must in a large measure be followed. Safe ideals may be instilled through play, and the child should be supplied with safe opportunities for self education.

4. STONES FOR BREAD. When we give the child ready-made things, ready-made toys, ready-made playground apparatus, ready-made playgrounds, which he could make himself and in so doing receive valuable training we give him stones instead of bread. The instinct to play with

things was given the child to stimulate him to make the things he plays with. When these things are supplied to him without effort his play comes too easy, and becomes a demoralizing influence.

5. CHILDREN SHOULD MAKE THEIR OWN TOYS. It is probably much cheaper and easier to furnish the child with ready-made playthings, but they do not have the educational value which would obtain if the child were given material for making his playthings with either instruction in the methods, or opportunities whereby he could learn to make his own play materials. Toys have a place we suppose, as they have always been used, but they should serve as models for imitation and inspiration rather than as "sops" with which to satisfy the play instinct.

6. CONSTRUCTIVE PLAY IN EDUCATION. With regard to the educational value of constructive play, Mr. Harry Leland, Supervisor of Manual Training at Leominster, Mass., says:

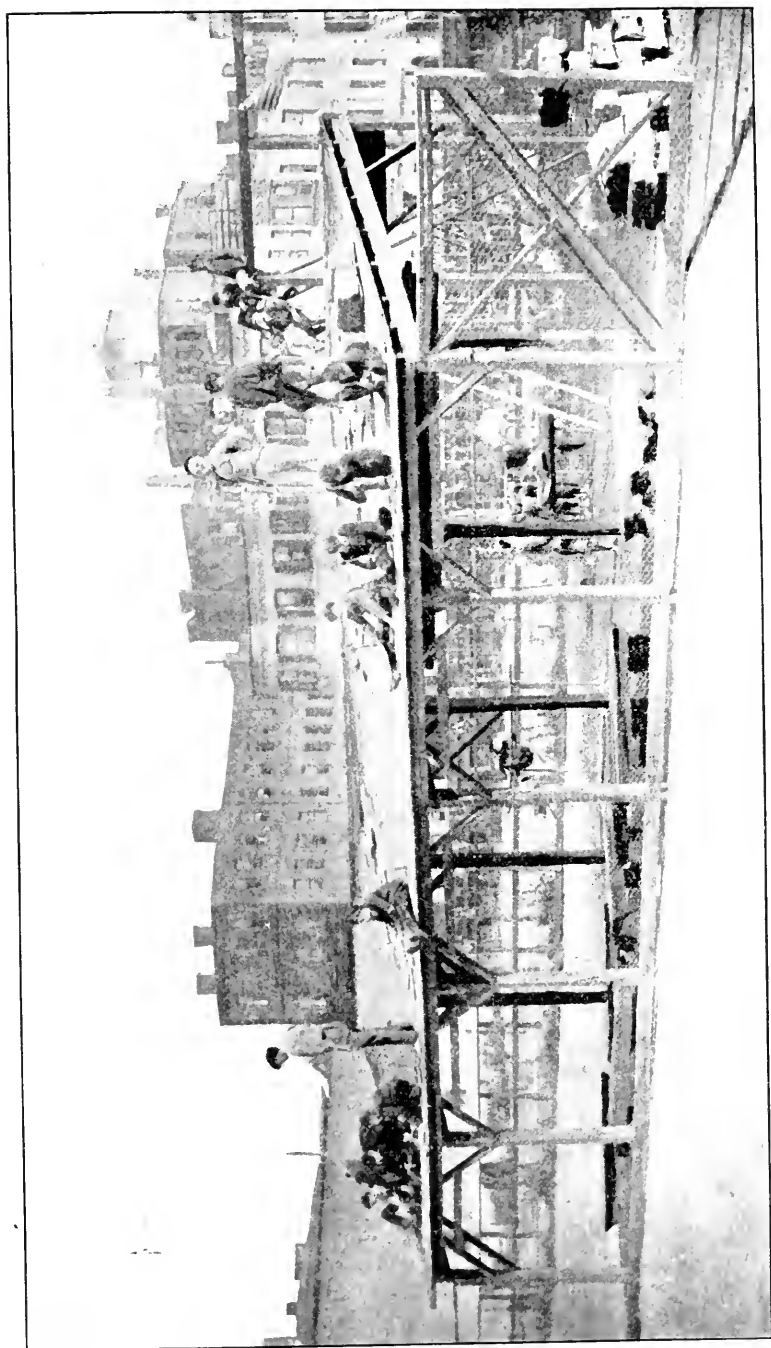
"The gigantic strides that normal training and industrial education have made during the past five years, only show the high value that constructive work and play fills in our national educational system. The idea of creative and constructive play permeates all our elementary and juvenile educational work, and the actual 'doing of things,' is rapidly spreading through our national life.

"Athletic and social plays have a definite and recognized value, but if we as a nation wish to compete in the markets of the world we must teach our children to recognize the pleasure and value in honest constructive work and play. It we really enjoy what we are doing and if it has a recognized value for good it matters but little whether we call it work or play. The constructive work and play now being offered to the children (and grown-ups) of this country will in time put this nation at the front for its manufactured products; it will develop a higher moral and social character in those brought in contact with it; it will increase the efficiency, earning capacity, social standing, and self-respect of the worker."

Nations cannot spend all their time fighting or governing. Neither should children spend all their time playing games which develop only the qualities used in fighting and governing. Not that we would have these qualities under-developed but that we would have the other qualities developed more. "Blessed are the peacemakers for they shall inherit the earth."

The aristocratic business of England is politics and ruling subject races. Their system of athletics and games seems to give the best training for this. The brains of America are engaged in business, building railroads, inventing machines, etc., advancing the arts of peace.

England seems to be losing her place somewhat in the markets of the nations. Germany and America are both crowding English goods out.



"THE GANG LEARNS BUILDING"

Columbus Avenue Playground

The Massachusetts Civic League "allowed" the boys to make their playground

A system of education therefore for America must be based upon the education of constructive ability. We must have team play in manufacturing and the beginnings of this must be made in childhood. Making things for the playground and working together in gangs for the playground with one of the playground children elected as leader will bring about this coöperation in work quicker than any other method. The foundation for all mechanical genius is laid in childhood through constructive play. Our greatest men have been interested in nature, horses, animals, and things mechanical as much as in athletics and games.

B. FRANKLIN AN EXAMPLE OF PLAY EDUCATION

Perhaps the man who has had the greatest influence upon American life is Franklin. His name was more familiar to Europeans and in his own country as familiar as Washington's. *Francis Newton Thorpe says, "He became a wise man by teaching himself. His records of the process of his self-culture remain the maxims of a world experience. . . . His unselfishness was of a kind that we see in trees and plants, which fruit in due season with no thought of making the human race their debtors. . . . He tells us that 'he was born and bred in poverty and obscurity, from which he emerged to a state of affluence and some degree of reputation in the world, and that he went through life in a considerable share of felicity.' . . . He was not sent to college, because his father considered a college education too expensive; 'the mean living many so educated were afterwards able to obtain' was a sufficient reason to the elder Franklin that worldly success was not surely to be won after so great an expense.

1. FRANKLIN'S CHILDHOOD TRAINING. "Franklin, speaking of his father's method of training said that his father at his table liked to have as often as he could, some sensible friend or neighbor to converse with, and always took care to start some ingenious or useful topic for discourse, which might tend to improve the minds of his children. By this means he turned their attention to what was good, just and prudent in the conduct of life. This insight into his childhood shows how early in life his mind was impressed with the paramount importance of things ingenious or useful, and to the end, he judged of the value of men's labor by their usefulness to mankind.

"When it was to be decided to what employment he should be put, his father sought a practical solution of the problem by taking him to walk with him 'to see joiners, brick-layers, turners, braziers, etc., at their work, that he might observe my inclination and endeavor to fix it upon some trade or profession that would keep me on land. It has ever since been a pleasure to me to see good workmen handle their tools, and it has often been useful to me to have learnt so much by it, as to be able to do some trifling jobs in

*Report of Commissioner of Education, 1903, page 91.

the house, when a workman could not readily be got, and to construct little machines for my experiments while the intention of making the experiment was still warm in my mind.'

2. PRACTICE NOT THEORY. "He was himself a close observer, and like all great men who have advanced science, he made his observations with the assistance of simple and inexpensive instruments. . . . He knew nothing of elaborate physical apparatus; Nature was his laboratory, observation and experience his teachers, and he relied upon these as the best means for the education of others. Ambition stimulated him to gain knowledge and he reasoned that it would stimulate others. . . . He saw in industry and business the chief occupation of the mass of the people. Schools, he thought, should contribute to the advantage of this industry and this business. He would make transition from school life to the life of business easy and natural."

"'It was Franklin,' says one of his biographers, 'who chiefly educated the colonists in a knowledge of their rights.'"

3. THE PLAY SCHOOL. The play school as developed by Dr. Johnson at Andover, the vacation school and playground, and the kindergarten have been the most active factors in influencing present educational ideals towards those which Franklin held. The vacation schools and playgrounds in charge of the Massachusetts Civic League used to take the boys around to visit various city industries.

4. THE AIM OF THE PLAYGROUND. When the work of mankind leaves the home because it can be done more economically in the workshop, the necessity of special play education and specific instruction is ushered in.

Denied the privilege of observing adults at their best, in constructive effort under discipline, the child must base his play upon the object les-



CARPENTRY AT SOCIAL CENTER
Philadelphia

sons furnished "gratis" by Life's Loafers and Vampires and the doings of adults during their periods of relaxation when restraints are thrown aside.

The playground aims to counteract these evil influences already hard at work, and to provide for both child and adult an antidote to the disintegrating, diseducational and demoralizing effect of necessary specialization. Hence the need of public moral cleanliness and provisions for moral object lessons actively applied to fill up these "youthful knowledge seekers," so that the lessons of the stables, the alley, the gutter, the saloon and brothel will find no place empty waiting to be filled. Play seems the best method of applying some of these precepts.

PART V

THE TECHNIQUE OF CONSTRUCTIVE PLAY

CHAPTER XX

PLAYGROUND MANUAL TRAINING

A. INDUSTRIAL WORK RECOMMENDED BY COMMITTEE ON NORMAL COURSE OF PLAY

This should include sewing, raffia, crocheting and basketry. The different stitches in sewing and crocheting and the different forms of weaving in basketry and raffia should be shown with the materials and practiced and learned by the students. Rope splicing, carpentry, whittling and kite making are sometimes pursued by the boys.

1. The children should do as much of the practical work as possible. If the boys help to clear the ground and make the ball diamonds and running tracks, and the girls make the baby hammocks, and bases for baseball, covers for tether balls, bean bags and their own aprons and bloomers, the work will be interesting in itself, and will increase their loyalty to the playground.

2. Basket work, raffia and worsteds. Older girls are very fond of these and it always pleases the parents.

Whittling, rope splicing and kite flying for boys.

(a) The director should not give out material without instruction how to use it.

(b) He should not give out material for the children to take home.

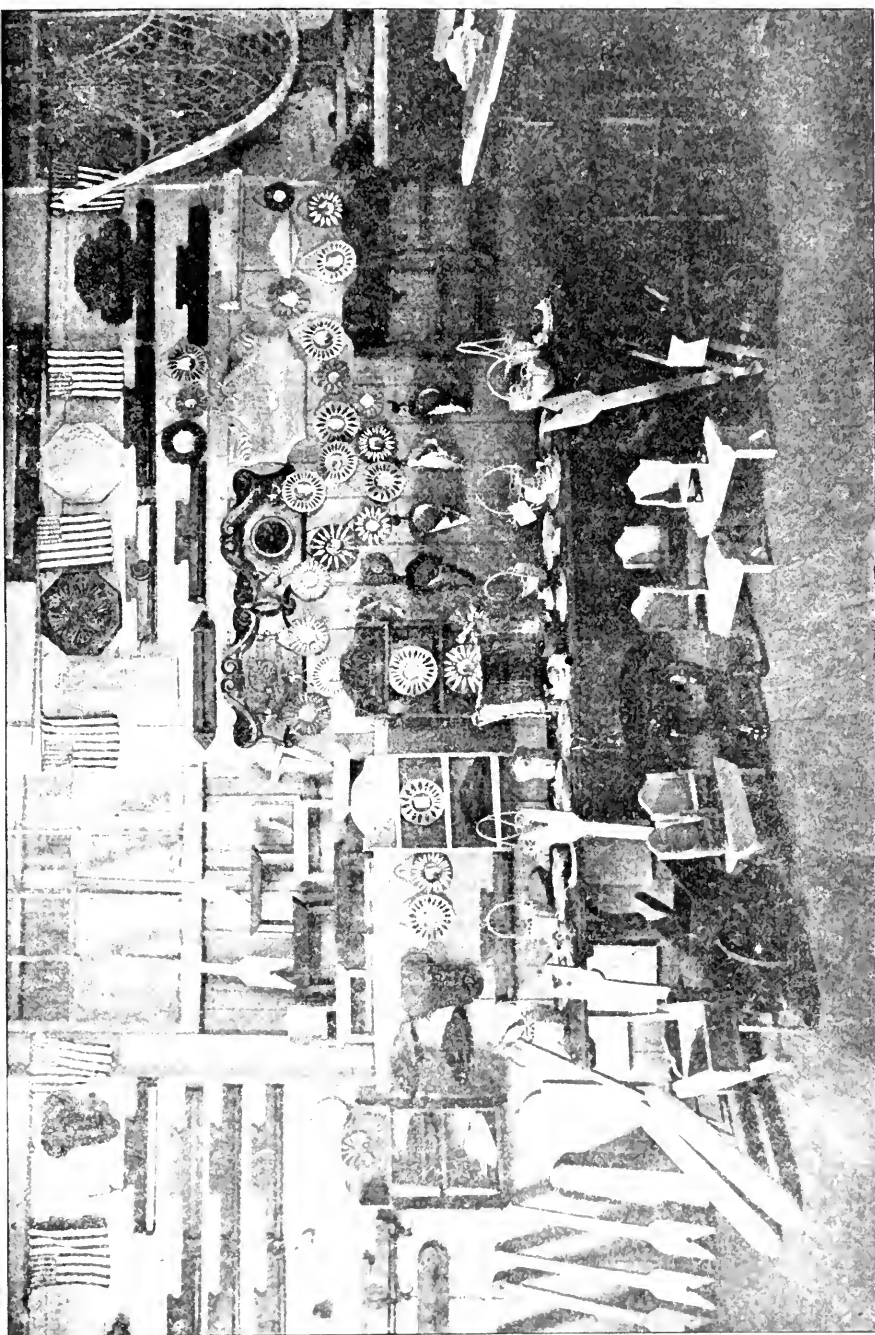
(c) He should not give out material to be carried around the playground.

(d) See that the children finish what they begin.

(e) Have the children furnish the material for the larger pieces, and allow them to keep it.

NOTE.—The better pieces of work find a ready sale, and in some cities there is a practice of having a fair at the end of the season and disposing of the objects made. The proceeds go either to the children, to the playground, or are divided between them.

The consensus of opinion at the Conference of Kindergartners at the Second Playground Congress was: "The materials used by the younger children should be those which lead to the larger activities, such as: standard materials—blocks, light boards, sand, clay, shells; natural materials, miscellaneous constructive materials—boxes, spools, twigs, wood, cardboard, heavy paper, and such necessary tools as scissors, hammers, glue, nails, etc.; toys—balls (large and small), pails, shovels, wagons, wheelbarrows, animals, dolls, dishes, ropes, brooms."



Photograph by Wm. A. Stetler.

PLAYCRAFT AT PHILADELPHIA

B. CONSTRUCTIVE PLAY ACTIVITIES OF CHILDREN OF DIFFERENT AGES

BY HARRY W. LELAND, B.S.,

Supervisor of Manual Training, Leominster, Mass.

Eight to eleven years—Wooden swords, knives, daggers, windmills, water wheels, wind vanes, boats, toy furniture, kites, tepees and wigwams.

Eleven to fourteen years—animal houses and cages, stilts, see-saws, skees, toboggans, sleds and guns.

Fourteen years or older—gymnastic apparatus, furniture, simple house or camp construction.

Construction work suitable for children is given in "American Boy Hand Book," Dan Beard; "Manual Training Magazine;" "School Arts Book;" "Woodworking for Beginners," by C. G. Wheeler.

For others see Bibliography and Dr. Johnson's list in "Education by Plays and Games."

C. *ATHLETICS AND MANUAL TRAINING CORRELATED

Physical training and manual training may be correlated through constructive play. Children should work for their play. The "Official" bats, balls and other equipment used for school and playground games should be "child made;" the champions, those who make the best goods and play the best game. Playground and school sports can direct the dynamic stream of play into the channels of "playcraft" where its force can be accustomed to industrial uses. If money is spent on materials and instructors to teach the children to make their own play supplies, some temptations would be removed from politicians and others who are not in business for their health; and athletic sports would be greatly benefited. Interest in games would lead to interest in constructive play and vice versa. In Louisville, whistling classes led boys to take an interest in athletic games who could not have been reached otherwise.

D. THE PLAYCRAFT LEAGUE

The success of a playground movement depends upon the closeness of its relations with the whole community. Benjamin Franklin used to say that the best way to make a friend was to get him to do something for you. One of the cardinal principles which is taught to Y. M. C. A. workers is that they should never do anything themselves which they can get one of their members to do because if the member works for the association his interest will be kept. The playground movements which are successful are those which have the most people working for them. No one is so ignorant or so downtrodden but what they can be elevated by doing something for someone else.

*This subject will be elaborated in Volume I..

We would suggest the formation in each playground of a Playcraft League; the object of this league to be to work for the playground, in some constructive way. In olden times there were husking bees, house raisings, quilting bees, etc. By coöperation good fellowship was secured.

The German turners work together for their turnverein in this way. Perhaps this fact may account in part for strength of the movement.

The citizens of the town of Northboro, Mass., have instituted an annual field day.

A park was donated to the town sometime ago and being unable to secure sufficient funds from the town to develop the park the annual field day was instituted. When it arrives so do a goodly number of citizens, with their picks and shovels and other implements, and for a day they labor with a will toward the further development of the park, in the center of which is considerable of an elevation that has been dignified by the name of "Mount Assabet." There has been much good work done by the citizens, and annually there is made considerable improvement. At noon there is always served a field dinner, and the affair has about it some picnic features, which lighten the labors and give somewhat of a holiday aspect to the situation. The work is done under the direction of the park commissioners.—*Boston Globe*.

We think this would be an admirable way to make a playground. Let the children make the apparatus and then have the fathers and big brothers come to put it up and the mothers can come and furnish the luncheon. Membership in the Playcraft League could depend upon doing something for the playground.

The playgrounds in Omaha were equipped by the trades unions who did all the work. The merchants donated the materials. This could be done anywhere, and it would be a good basis for the beginning of a strong playground movement.

Another way in which this league might be valuable could be in directing the interests of the boys towards various trades.

Now, if the playground could offer opportunities for the boys to "monkey" around with tools and if the different trades union people could come in once in awhile and show the boys how to use these tools it ought to be a liberal education. The courses in manual training given in the schools tend to specialization.

Through the play interest of the boy or the girl, the fundamentals of handling tools can be learned so as to give a basis for intelligent specialization later.

Whatever mechanical ability the editor possesses was acquired in the following manner:—endowed by nature with very strong play instincts and not endowed with parents who were in the habit of satisfying these play instincts in the ready-made ordinary fashion, by furnishing toys and supplies, it became necessary to make the means for enjoying play. There is probably not a manufacturing institution in our native town which we have not visited for the purpose of gaining information. The foundry was visited, the work in all departments copied. This was for the purpose of making a casting for the head of a camera tripod. A purchased one

was seen as a model and then a little wooden pattern was whittled out, sand begged from the foundry, miniature molding tools improvised out of pieces of brass and the casting made of lead. Our remembrance is that it didn't work very well, but we learned foundry practice. Now, if money had been available, we should have purchased that tripod. If we wanted to play baseball, we had to make a ball. We wanted a horizontal bar, and cut a stick in the woods, which we nailed up between the woodshed and the hen house.

Some such method as this used in the operation and construction of playgrounds, we should think would be valuable as a means of education. Most boys do not often have workshops with all the necessary tools; again, there are "no admittance" signs on all places where interesting industries are carried on. The playground should provide the means of natural education, which were open to the boys who are now men. It should not satisfy all the children's play instincts without effort on their part. Each child should have a trade mark to put on things he makes. The worker and craftsman should receive the reward of accomplishment.

A play work shop would serve as a center of constructive play in the neighborhood and furnish the opportunity for artistic workmen to exhibit their skill and offer a chance for children to watch their elders at work. Ideals of industry would thus be cultivated and opportunity would be given for the children to acquire education through imitation.

CHAPTER XXI

DOMESTIC SCIENCE

1. HOUSEKEEPING AND COOKING. The Dewitt Clinton Park Playground in New York has a department which we think is valuable enough to be copied by other cities. There is on this playground a small house with conveniences for housekeeping, and the children are taught elementary domestic science. Los Angeles has demonstrated the value of having the play director live on the ground, as his house becomes the center of social activity to the neighborhood. If on every playground there could be a play home where the children could learn some of the lessons which they will be called upon to practice when men and women, the influence of the playground would be greatly increased. There is much ignorance of the most common details of cooking and home management. Such a course should not teach the children to make "peanut cookies," "Charlotte Russe" or "angel food;" but it should teach the elements: how to make bread, how to cook beefsteak without making it into leather, how to operate and manage a fire economically, how to purchase food supplies, and other fundamentals of domestic economy by play methods.

2. DOMESTIC ECONOMY. The average wage of the employees in the various industries of Massachusetts varies from \$425 to \$450 per year. The problem which most of our playground girls will meet is that of supporting a family on this income or less. If any assistance can be given through play we may rest assured that it is badly needed.

It might be arranged so that different girls could each be appointed housekeeper for a certain length of time. Certain members of the playground of various ages might be selected as the family. We might have "the baby," "little Johnny" and "little Mary" play keeping house. A certain amount of money each week might be apportioned and the girls trained in the best way to get the most out of it.

3. A WORKMAN'S MODEL HOME. The *World's Work* for May describes a safe and sanitary home for \$1,000. Such a house as this would not be beyond the means of most playground systems. It could be made an object lesson in the community.

It is built on the plan which was awarded the gold medal by the International Tuberculosis Congress. Preparations are being made in twenty cities for building these houses.

The floors of the model house are of soft waterproof material, slightly sloping to one side with a pipe for drainage. There is not a square corner in the house where walls and floors intersect. The connections are rounded and afford no lurking place for dust or germs.

Windows and door frames and picture mouldings will be of metal and set flush with the walls. No paper on the walls; and furniture can be taken out and the inside of the house cleaned with a hose.

A substantial sink is built in the kitchen with water tight partitions so that it can be divided into two tubs or left single for a bath tub. A small sheet iron sink for dish washing can be attached. The combination gas gauge, stove and furnace is built in the house. It is protected on the outside by a cement jacket which prevents its overheating the kitchen. Its second purpose is to heat the rest of the house. Between the stove proper and the cement jacket are air chambers from which hot air is sent into other rooms. The ashes from the stove drop automatically into a pan which may be reached by the garbage man from the outside. Gas may be used instead of coal.

The ice chest also is built into the house with opening in the back part to put ice in. In winter the outside door is opened and makes it into a cold storage. It may be washed with a hose.

The garbage can be kept in a chamber in the wall and may be reached from the outside or inside.

There are fireplaces throughout the house.

The arrangement is such that the smoke passes up a central pipe which is enclosed in an air chamber. The air in this latter becomes heated from contact with the hot pipe and rises, thus drawing the bad air from the room. The coal for all the fires is hoisted to the roof by a simple chain block and dumped through a coal hole into a large pocket from which it distributes itself automatically, and the housewife feeds the fire by pulling a lever.

When the molds are made, all these conveniences can be had for \$1,000.

The Standard Oil Company is going to use this style of house in its model town, Bayonne, N. J.

If a home like this could be made on the playground, it would not be long before other and similar homes would be made in the vicinity. With such conveniences as these, housework could be done in half the time and with half the energy now required, leaving time for play.

4. **PLAY HYGIENE.** In connection with the course in domestic science many of the elements of hygiene as related to the family could be taught, such as treatment for various forms of filth, diseases and parasites to which children are subject. First aid to the injured, dental hygiene, hygienic cooking, the care of the sick, the care of babies, the rudiments of simple dressmaking and housekeeping should all be taken up from the play standpoint. It would be an easy matter to secure volunteer workers who would take charge of these activities. Another subject, which we think comes well within the domain of the domestic science course on play

hygiene is the formation of proper ideals of marriage. Sex instruction should never be given en masse, but to individuals, usually the leaders. It requires very careful handling.

5. DOMESTIC SCIENCE IN THE COUNTRY SCHOOL. One of the greatest causes of ill health among children in the country is the practice of bolting a hasty breakfast and running on the way to school immediately afterwards. The schools are usually in the center of the village, so that the children are obliged to leave early in order not to be late. After having bolted a hasty breakfast, at dinner time they eat a very meager and inadequate cold lunch, or sometimes they don't have the appetite to eat anything, and then go out on the playground. This practice is ruinous to health. Some of the small towns of Massachusetts have adopted a method which seems to work to perfection. The girls prepare the dinners every noon, each taking turn as housekeeper. The boys raise some of the vegetables used in the school gardens. The effect of this upon the children's health is immediately apparent. Through coöperation the expense of feeding all these children cannot be much greater when good warm dinners are furnished than it would be for each parent to put up a meager cold lunch, the only parts of which the children will eat are the cake "and fixin's."

CHAPTER XXII

PLAYGROUND EXCURSIONS AND CAMPS

A. EXCURSIONS

Rochester, in 1903, conducted seven excursions from the congested parts of the city to the parks. Their playground system originated this way.

The Chicago Playground Association is carrying on some interesting work in getting large groups to go for walking trips in the country. A leader is appointed to take charge of the party which goes by train to one of the suburbs, and from there walk for three or four miles in the open country.

The following general directions are sent to those joining the parties:

"When taking the train in Chicago do not buy tickets. The leaders of the party will be at the gate leading to the train and will give you a numbered coupon, half of which is to be surrendered to the train conductor. On the train or during a halt in the course of the walk the leaders will collect from each one in the party the amount indicated in this bulletin, which includes the cost of a round-trip ticket at commutation rates, plus a small fee to cover the cost of printing and postage. A coupon good for the return trip will then be given you. Please provide yourself with exact change before starting.

"Persons joining the party at an intermediate station will be given coupons after they have boarded the train.

"Permission has been secured to lead these parties on cross-country tramps through woods and fields. This courtesy on the part of the property owners should be met with equal courtesy by the trampers.

"In large parties especial care should be exercised to avoid doing damage to fences and cultivated fields. Flowers should not be gathered, nor limbs of trees or shrubs broken. Gates should be closed by the last member of the party.

"Anyone who may have good photographs taken on any of the walks will please communicate with the secretaries."

Buffalo also conducts playground excursions.

B. POISONOUS PLANTS

One of the chief dangers in taking city children into the country is that of poisonous plants. Children should be taught never to put any branches or leaves in their mouths which they do not know are absolutely harmless. No berries should be eaten except such as they know are perfectly harmless.

These things children of the country usually learn by tradition rather than by bitter experience.

The most dangerous of all poisonous plants are poison oak, poison ivy and poison sumach. (Mr. V. K. Chestnut of the Department of Agriculture has prepared a book entitled "Thirty Poisonous Plants," which may be secured from the Government Printing Office and the Secretary of Agriculture.)

C. CAMPS

1. VALUE OF PLAYGROUND CAMPS. The best way to get acquainted with people and to find out just what they are and also to influence them for good is to go camping with them. The first playground camp which we know of was Camp Hubbard which was conducted by the Committee on Camps of the Massachusetts Civic League in 1900. The leaders among the boys on the playground were taken camping for a week. Other playgrounds have introduced camps and there have been a number of municipal camps, Newark, New Jersey, conducting such a one. It is our opinion that one of the solutions of the city and country problem lies in the establishment of camps.



A HOME-MADE TENT

2. HOME-MADE TENT. One of the great drawbacks is generally that of expense. We cannot see why camps would need to be quite so expensive. When we were "kids" we wished to go camping "the worst way."

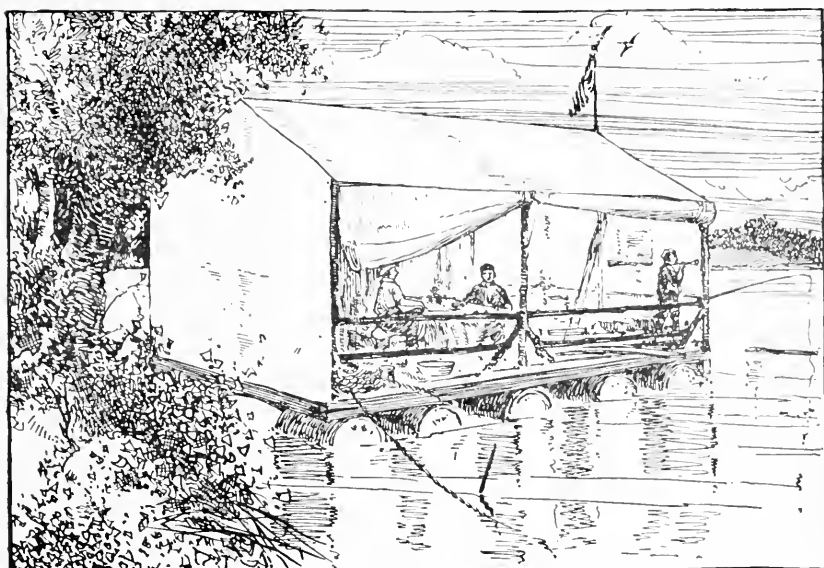
Our father didn't have the money to get us a "fitout." We designed the following method at the age of fifteen:

The frame work to a tent was made by setting six upright saplings about the size of fishpoles so that the two in the middle would serve as an attachment for a ridge pole, while the two at each side of this would serve as the eaves to a tent frame. The tent was made of unbleached cotton cloth cut into the proper sizes so that the piece going over the ridge pole would make three sheets if cut up. The two ends of the tent were each the proper size to make one sheet. The piece over the top was run over the frames and tacked at the bottom. Then the end pieces were pinned to the roof and sides. One end piece was split so as to leave an opening by which to enter the tent. The fly was made out of another piece of cloth. Then above the ridge pole was placed another ridge pole made in the same way and over this was stretched a piece of sheeting large enough for two sheets with straps sewed on to the ends in which ropes were tied and attached to stakes driven in the ground. The only cost was for the unbleached cotton sheeting and after the season was over the sheets were thoroughly bleached and were made up and used for bed purposes. Total cost of tent nothing and bleached sheeting as an added asset. Our paternal ancestor saw the point and for three summers two of us went camping on various lakes, twenty miles or so from home. We were each given \$1.00 apiece per week to pay expenses with and we managed to make it get us there and back and pay expenses. (See illustration on page 177.)

We got jobs haying, picking blueberries, and in some instances caught fish and sold them.

We see no reason why such a plan should not be carried on in larger proportions. The trouble with children now-a-days is that they have things too much predigested, ready-made, cut and dried for them. A little "roughing it" under proper supervision would do a wonderful amount of good to the majority of our city "kids." Get them out in the country, give them two or three dollars a week or have their parents furnish it and let them try life, on their own hook.

3. FAMILY CAMP. The city of Berlin has a novel method of getting the people out into the country during the summer time. They establish a camp on the outskirts of the city, where the people come from the tenements and live during the summer time. As a modification of this plan we would suggest that every city playground system have established in one of the large parks a playground camp, where leaders from the various playgrounds of the city could be taken for a week's outing. It would not be necessary that this be put in a public park. It might be carried on in connection with the course in gardening.



Courtesy of Youth's Companion

ENJOYING THE FRUITS OF THEIR LABOR

4. A VACATION ON A RAFT. Mr. A. S. Atkinson in the *Youth's Companion* May 20th, 1909, describes a unique method of making a water camp which might be used by the playground boys in one of the city parks. Under proper supervision and with proper sanitary regulations a fleet of these home-made camps could add much to the play life of the city child. We reproduce the cut by permission and refer the reader for description to the original article.

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CHAPTER XXIII

THE PLAY COURSE IN FORESTRY AND GARDENING

A. EXTRACTS FROM SCHOOL GARDENS. BULLETIN NO. 160, U. S. DEPARTMENT OF AGRICULTURE

BY S. C. CORBETT

"Agriculture in its broadest sense is the primary basis of wealth in this country, and it seems essential that efforts should be made in our educational system to bring early to the mind of the child facts which will be of value as emphasizing the importance and necessity of agricultural work. There is no better way to do this than through a well-managed and well-conducted system of school garden training. Aside from the fact that the interest of the child is early awakened in an industry which means much to the future prosperity of this country, there is often a broader application of the work in its moral effect on the child. Then, the work is valuable in broadening lines of thought, enlarging the scope of the child's observation, and improving its physique. It has been well said that:—

"In the school garden the fact should always be kept prominent that the pupil is to be the most active factor. We can put things in his way to help him develop properly and keep him from some of the things that fail so to help him, but we cannot do this developing for him, and if he is to have a knowledge of the elementary principles of life, of industry, of mankind, of beauty and the morality of work he must work out his own salvation.

"In the spring of 1902 the Bureau of Plant Industry of the United States Department of Agriculture received a request from Normal School No. 1 of Washington, D. C., for assistance and coöperation in its efforts to introduce gardening into the course of the school.

"The course prescribed in the school at the present time is sufficiently elementary to be easily adapted to the schools into which the graduates are sent. No text-book is required, books being used simply for reference.

"Simple experiments are performed and conclusions drawn from the results. Soils brought from school grounds are treated with different fertilizers, seeds planted in them, and the results carefully noted. The water-holding power of soils, the conservation of water by soil mulching, the essentials for germination, and the proper depths for planting various seeds are learned through experiments.

"Before the frost touches geraniums, coleus, scarlet sage, and heliotrope in the park beds, cuttings are made and placed in clean sand to root, thus furnishing material for school-ground decoration later. These slips are potted and shifted into larger pots, as required, during the winter, so

that by spring the greenhouse is filled with material for distribution. In the spring of 1904, 4,000 plants were sent out from this house, which covers an area of only 9 by 32 feet.

"Besides the herbaceous material mentioned, hard-wood, permanent material is used for cuttings. Eight-inch cuttings of privet and forsythia are kept during the winter under an open shed in flats filled with sand. In March these are sent to schools, with directions for planting. The grounds of three schools are now surrounded by thriving hedges planted by children. The demand for these cuttings is greater than the school can supply. *Ampelopsis veitchii* and *Clematis paniculata* have been raised from



PLAY GARDENING IN THE COLUMBUS AVENUE PLAYGROUND
Boston

seed and distributed to schools and to the homes of the students. Bulbs have been planted in pots for winter forcing. Lists of plants suitable for withstanding the unfavorable conditions of schoolrooms have been prepared for the use of pupils.

"Much attention has been given to window-box gardening. The preparation of the soil, the suitability of plants, and their proper arrangement have been carefully studied. Special success in these window boxes has been obtained with Boston ferns."

"The work is done in Worcester, as in many other places, in the nature-study period. The outdoor work is preceded by simple informal lessons in

the class room. The children bring tools from home. It has been necessary for the teacher to buy soil every two or three years, as the steep grade of the yard causes the ground to be deeply washed. To most of the children this work is an incentive for home gardens, and the improvement of the surrounding neighborhood testifies to the value of the work at the school."

* * * *

"A wild garden on one side of the building, a small vegetable garden on the other side, and a creditable lawn in front, bordered by luxuriantly blooming nasturtiums, make this building one of the most pleasing results of the efforts of children. A school yard planted by a gardener is good if the work can be done in no other way, but the one that best serves its educational value is planted by children, no matter how small the ground or how crude the result. It is in such a garden that moral teaching is accomplished."

* * * *

"Clematis, climbing roses, English ivy, and the trumpet creeper, as well as moon vines and other annuals, were planted along fences and wood sheds.

The planting of 250 forsythias along the walks to the buildings will be of permanent value. These plants were made by the girls from cuttings from shrubs in the grounds of the Department of Agriculture."

* * * *

"Tree seeds have been collected in the parks of the city in the autumn and kept in sand during the winter. In the spring the ground has been plowed by the students with a hand plow, the seeds being planted in accordance with the directions given in Bulletin No. 29 of the Bureau of Forestry of the Department of Agriculture. Weeding occasionally during the summer is all the work that has been required. The nursery now contains about 400 young trees."

* * * *

"The simple principles of landscape gardening are taught—popularly known as the A B C of gardening: (A) Keep open center; (B) plant in masses; and (C) avoid straight lines."

* * * *

"This plan has been followed successfully for two years. At the beginning of vacation the garden is so attractive that it is little trouble to form volunteer committees of children to report once a week throughout the summer to water and cut the grass and work the flower beds. The attendance has been large. Each student in the normal class comes once a week for three weeks to direct the work."

* * * *

"The children do this work with no reward in view other than the beautifying of the grounds. Civic pride is taught and respect for the prop-

erty rights of others is learned. While stealing and vandalism were weekly occurrences the first summer the gardens were in existence, not one case was reported during 1904."

* * * *

"Plantain and dandelions have been troublesome weeds in the lawns. The older children measured the area and calculated how many flower heads, if allowed to seed, a plant must bear to take entire possession of the lawn. This, of course, has been done with the supposition that every seed grows and has a given space. This is practical, in that it teaches the necessity of preventing the ripening of the seeds of weeds."

* * * *

"Philadelphia, Boston, New York, and St. Louis, with their large foreign quarters, have felt the need of a work that will turn the children toward the country; so in those places the subject has been worked out on large areas, subdivided into many small plats, where children are taught the value of intensive farming on small tracts."

"To test the value of gardening as a suitable form of manual training for boys below the seventh grade, a sixth-grade class of boys was selected to work the land assigned the normal school on the grounds of the Department of Agriculture."

* * * *

"Study of soils, fertilizers, seed sowing and mulching was made before the outdoor work began. Each boy was assigned a plat 10 by 17 feet, paths two feet wide separating the plats. The measuring was done by the boys and was the most difficult part of the work."

* * * *

"There is no better object lesson to a lazy or careless boy than the little plants appearing above ground. Such boys at this time will sometimes hoe up their entire plats and replant them, because of the great difference apparent between their gardens and those of the more careful pupils. All things are not suitable for such small plats. Among vegetables, radishes, lettuce, onions, bush beans, and tomatoes, if trained to stakes, are the most satisfactory to children; petunias, nasturtiums, sweet alyssum, and verbenas flower all summer, so a bunch of flowers may be taken home at every lesson."

* * * *

"By putting in a crop as soon as one has been exhausted, on a sixteenth of an acre these sixth-grade boys raised 336 bunches of radishes, 110 bunches of onions, 368 heads of lettuce, 89 bunches of beets, 8 bushels of beans, 7 bushels of tomatoes, 7 bunches of carrots, and 1 peck of turnips, besides nasturtiums and petunias, many boxes of which found their way to the hospitals of the city."

* * * *

"At regular market prices \$55 worth of produce has been gathered from this small plat. Experienced farmers sometimes fail to do as well."

"There is no question in the minds of those in charge of the value of the work. Proof was given the first season of the influence on the homes of the boys. With little expenditure for tools, fertilizers, and seeds, and in some cases renting land near schools, such opportunities could be given to every sixth-grade boy in the city."

The Horticultural Society of Springfield, Mass., with the coöperation of the City Forester and the *Springfield Republican*, have for two years encouraged the beautifying of school and home grounds by means of prize contests. Circulars giving cultural directions for trees and ornamental shrubs best adapted for city use are circulated. The newspaper donates the prizes.

B. HOME GARDENING ASSOCIATION, CLEVELAND, OHIO

The Home Gardening Association of Cleveland is the originator of the method of encouraging home gardening by the selling of penny packages of seed. The work is not confined to children. Earnest workers of the Goodrich House Settlement started the association, which aims to reach adults as well as children, and they find the garden the readiest means of entrance to the homes.

* * * *

Envelopes containing the following list of seeds and particulars as to their distribution are sent to the schools in February:

THE HOME GARDENING ASSOCIATION

SEEDS RECOMMENDED

Price, 1 cent a packet. Mark opposite the variety the number of packets wanted. Separate colors cannot be ordered.

ASTER, mixed, scarlet, white, blue, and rose, 15 inches high.....	NASTURTIUM, a climber, yellow, orange, and red, 6 feet high.....	
BACHELOR'S BUTTON, or CORNFLOWER, blue, pink, and white, 2 feet high.....	NASTURTIUM, bush, yellow, orange, and red, 1 foot high.....	
BALSAM, or LADY SLIPPER, mixed colors, 2 feet high.....	CHINA PINKS, mixed, pink, scarlet, white, and lilac, 6 inches high.....	
CALLIOPSIS, or COREOPSIS, yellow and brown, 2 feet high.....	PHLOX, mixed, scarlet, pink, and white, 1 foot high.....	
*COSMOS, mixed, white, pink, and red, 5 feet high.....	SCARLET RUNNER, a climber, scarlet, 7 feet high.....	
FOUR-O'CLOCK, yellow, white and crimson, 2 feet high.....	VERBENA, mixed, white, scarlet, purple, 6 inches high.....	
MARIGOLD, yellow, 1 foot high.....	ZINNIA, scarlet, 2 feet high.....	
MORNING-GLORY, a climber, mixed colors, 12 feet high.....	†GLADIOLI BULBS, red, yellow, and pink, 1 cent each.....	

*Cosmos is not recommended for smokiest districts. Blooms in October.

†Gladioli bulbs should be planted right side up, in a good, rich soil, in a sunny situation, 6 inches deep and 6 inches apart. Will send up one stalk of bloom three months after planting. Flower stalk may need support by tying to a stick. The bulbs should be taken up in October and planted next spring. Store where they will not be frozen. Will make a fine display in school yard.

Return this envelope to the teacher with your money. Do not put money in this envelope.

Number of packets, _____. Amount, _____ cents.

Write your name here _____.

Address, _____.

Grade, _____. School, _____.

Your seeds will be delivered to you in this envelope about May first. Prepare your garden in April. Select the sunniest part of your yard, but avoid a place where the dripping from the roof will fall on the bed. Dig deep—a full foot. Soil with well-rotted manure dug in will give better results than poor soil.

Four-o'clock, bachelor's button, marigold, calliopsis, zinnia, morning-glory, and nasturtium are the easiest to grow successfully.

Many window boxes should be planted. Try one.

After the seeds desired by each child are indicated, the envelopes are sent by the principals of buildings to the Goodrich House, while the money is forwarded to the treasurer. A slight profit accrues from this work, but it is returned to the schools in the form of prizes or by the donation of bulbs.

The seeds are delivered the first of May. Lessons are given in the schoolroom on the ways to plant and the care of the gardens. To supplement these lessons, the association distributes cards containing the following instructions:

DIRECTIONS FOR THE CARE OF THE GARDEN

Plant seeds in garden or boxes early in May.

Fill boxes with 4 or 5 inches of fine, rich soil.

Place boxes in sunny place and sprinkle every day.

Cover boxes at night if very cold.

Transplant seedlings to the garden about June 1, on a damp day.

Sow seeds of calliopsis, nasturtiums, morning-glories, and four-o'clocks in the garden, as they do not stand transplanting.

SUGGESTIONS FOR WINDOW BOXES

Make a box 6 or 8 inches deep, 12 to 15 inches wide, and as long as the window is wide. Fill the boxes with fine rich soil and fasten firmly to the sunniest window.

Place similar boxes on the porch or fence.

Plant morning-glories on the side nearest the house and train up on strings.

Plant climbing nasturtiums near outside, to hang down over the box.

Plant calliopsis, zinnias, marigolds, asters, or verbenas in middle of box.

Boxes need water every day.

MAKING OF YOUR FLOWER BEDS

Select sunniest part of the yard.

Avoid a place where the dripping from the roof will fall on the bed.

Best effects are produced by planting all of one variety in one place.

PREPARATION OF THE SOIL

Dig up the bed, as early as possible, a foot deep.

Mix with the soil some rich earth, well-rotted manure, or leaf mold from the woods.

Rake the beds and keep the soil fine and free from lumps.

PLANTING OF SEEDS

See directions on the seed packet.

WATERING OF THE GARDEN

Sprinkle the beds every day, if necessary, until the plants are 1 inch high.

Do not allow the soil to become too dry.

Sprinkle thoroughly every few days when the plants are 2 or 3 inches high, instead of lightly every day.

Water in the morning and evening.

THINNING OF PLANTS IN THE GARDEN

Avoid having plants too crowded.

Thin the plants when they are 2 or 3 inches high, on a cloudy day, when the soil is moist.

Transplant seedlings pulled up to another bed, or give them to some friend.

Take up a little soil with each plant.

Use a trowel, and old kitchen fork, or small, flat, thin stick.

PICKING OF FLOWERS

Do not allow flowers to go to seed.

Pick them every day and more will bloom.

Allow a few of the best flowers to go to seed for next year's garden.

Keep beautiful fresh flowers in your house and share them with the sick.

GENERAL INSTRUCTIONS

Dig deep and make the soil fine on the surface.

Keep pulling out the weeds all summer.

Sprinkle the seeds every day.

Water the bed thoroughly every few days during the whole summer.

Pick your flowers every day.

Keep your garden neat.

Flowers require attention all summer.

By attending to these things you will have flowers all summer and for the flower show in the fall.

Each school building holds an exhibit in the autumn, and the best in each division is awarded a prize, consisting either of money or bulbs. If the former, it is with the stipulation that it shall be devoted to improving school grounds.

C. EXPERIMENTATION

The United States Department of Agriculture conducts the biggest correspondence school in the world. Youth is preëminently the time for experimentation. Through the children, the agricultural methods of the country can be entirely remodelled. We have a small brother, who is of an experimental turn of mind, as are most children. We have introduced him to the Department of Farmers' Free Bulletins, a list of which may be secured by addressing your Representative in Congress, and through play he is learning a great many new things about farming methods. The various agricultural colleges of the states will gladly furnish information regarding new methods upon application. We think that the children should get in the habit of using these means of education.

D. CREATION OF NEW SPECIES

Hybridization and the creation of new species offers a wonderful field for attracting the interest of the children to the soil and its possibilities. Tell them the story of Burbank and his wonderful achievements. The process of hybridization is so simple that any seven-year old child could do it. Simply shake the pollen from the stamens of one species onto the stigma of the variety you wish to hybridize; then collect the seeds, plant them, select the best specimens, hybridize the best ones again and repeat. There are many beautiful flowers which may be obtained, hundreds of varieties of wild grasses that may beat anything we have in our mowings

now. The Department of Agriculture will be glad to assist. Don't attempt to make the play gardening of children too materialistic or economic. Childhood is the time of experimentation.

Appropriate vines and hedge plants are needed for the landscape gardening of playgrounds; vines which a baseball will not injure. Perhaps the children can develop these. The Department of Agriculture is trying to introduce the culture of basket willows. Why not have a part in the playground, or space in the big parks where the children can raise willows for their own baskets, for use in making willow huts, etc. Basket willows would make a good screen for separating the different parts of the playground.

E. A PLAN OF REFORESTATION

One of the most serious problems which our country has to face is the destruction of the forests. The whole country could be reclothed with trees inside of three years by the proper organization of school children, who would plant the seed and then transplant the seedlings in the place where they are to grow. The Massachusetts Board of Forestry is attempting to introduce the study of trees into the public schools. The danger is, that children will learn about trees and not plant them. Through country playgrounds, we think this work could be extended quicker than any other way, for play directors have the ability to lead and direct the interests of the children. An organization of "Forest Crusaders" might be formed. The little bits of tots could be "dryads" and plant the seeds. The bigger ones could be "elves" and transplant the little trees. The boys and girls seven to eleven could be "rangers" and take care of the small trees. The big boys could be "foresters" and could range the woods and fields collecting seeds.

The children in the cities could plant such trees as are adapted for street ornamentation and for shade on playgrounds. They could also raise shrubs for the decoration of home and public grounds. The public schools of Springfield are doing something of this nature, but without any particular organization. The organization could be made the whole thing.

Each tree that a child plants might have his name on it or near it, and membership in the "crusaders" to continue while the trees lived. Competition might be introduced. The plan presents unlimited possibilities. The children of a city playground might raise forest tree seedlings and plant them for farmers in the districts not too far from the city, and more than cover the expense of a camping trip.

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Nature Study and Related Subjects—Jackman.

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Cornell Leaflets of Nature Study.

Hampton Institute publications.

How to Make School Gardens—F. D. Hemenway.

Children's Gardens—Louise Klein Miller.

Agriculture Through the Laboratory and School Garden—Dougherty and Jackson.

Agriculture for Beginners—Burket and Stevens.

Agriculture—Soule and Turpin.

Nature Study and Life—Hodge.

Nature Study—Holtz.

"Some real knowledge of the amount of care, time, patience and money, and of the chance for success or failure in raising a shrub or tree, will do more in getting a boy voluntarily to respect public parks than all the police which a city can afford to watch over it."

CHAPTER XXIV

PETS AND THE DOMESTICATION OF ANIMALS

The domestication of animals has played an important part in the development of the race. The responsibility and care needed for success in raising and using them has created in the normal man a love for these dumb creatures, who look to us for support, and who in return give us of their strength and love unsparingly. The child who does not have a pet to care for can never be a normal man or woman. Every playground should have a cat, a dog, pigeons, rabbits, white mice, guinea pigs, perhaps canary birds, and a fish pond, not necessarily large. Los Angeles has a good style to copy. Wherever there is space a playground cow and horse would be an admirable addition. They might be installed at the playground camp in the big park. The children could take turns in being "allowed" to milk the cow for a week, and take care of the horse.

The cow could furnish the milk, cream and butter, for the play house-keeping.

The horse could be used to do odd jobs connected with the playground system, to take the children on camping excursions and to serve as conveyance when one playground in the city visits another playground. The cities' condemned fire horses can be purchased very cheaply for this purpose or perhaps they might be donated. The horse could plow up the children's gardens and haul cinders in winter. The plan presents many opportunities for development. Toads ought to be secured and kept on the playground. Dr. Hodge's "Studies" have proved conclusively the value of nature study and the love of animals in the education of the youth. In the country, wild animals can be caught and domesticated. Fish could be supplied to the small streams. The fish growing wild in a natural lake were tamed by the assistant editor when a little girl, so that they would follow her up and down along the shore. She would take them out in her hands, keeping them out until they showed signs of distress, putting them in little cans of water and then putting them back in the lake. Immediately after they would return to be played with again. Dr. Hodge has succeeded in taming and domesticating the native rough grouse of New England. The *Boston Globe*, June 6, 1909, has a full-page article describing his methods.

Dr. Hodge, speaking of the educational value of the study of animals, gives the incident of some boys, who were bothering a spider. He asked them if they knew the spider was a sailor, and he proceeded to show them how he could sail on the water. When children are cruel to animals, it is usually not from a feeling of vindictiveness, but they are investigating and don't know a better way to do it. The field presents great possibilities in play education.

PART VI

THE EDUCATIONAL METHOD OF BUILDING PLAYGROUNDS

CHAPTER XXV

HOME MADE EQUIPMENT

A. THE ADVANTAGES OF HOME MADE EQUIPMENT

The construction of home made apparatus is exceedingly simple. There is no reason why any mechanic cannot make everything necessary provided the proper specifications are furnished. There are distinct advantages in having apparatus made up at home. They are:—

At the prices which the machine companies charge, equipments can be made by local labor at from one-half to two-thirds the prices charged by the machine companies.

The money is kept in your own city. Your own trades people receive the benefit therefrom and your own workmen get the work.

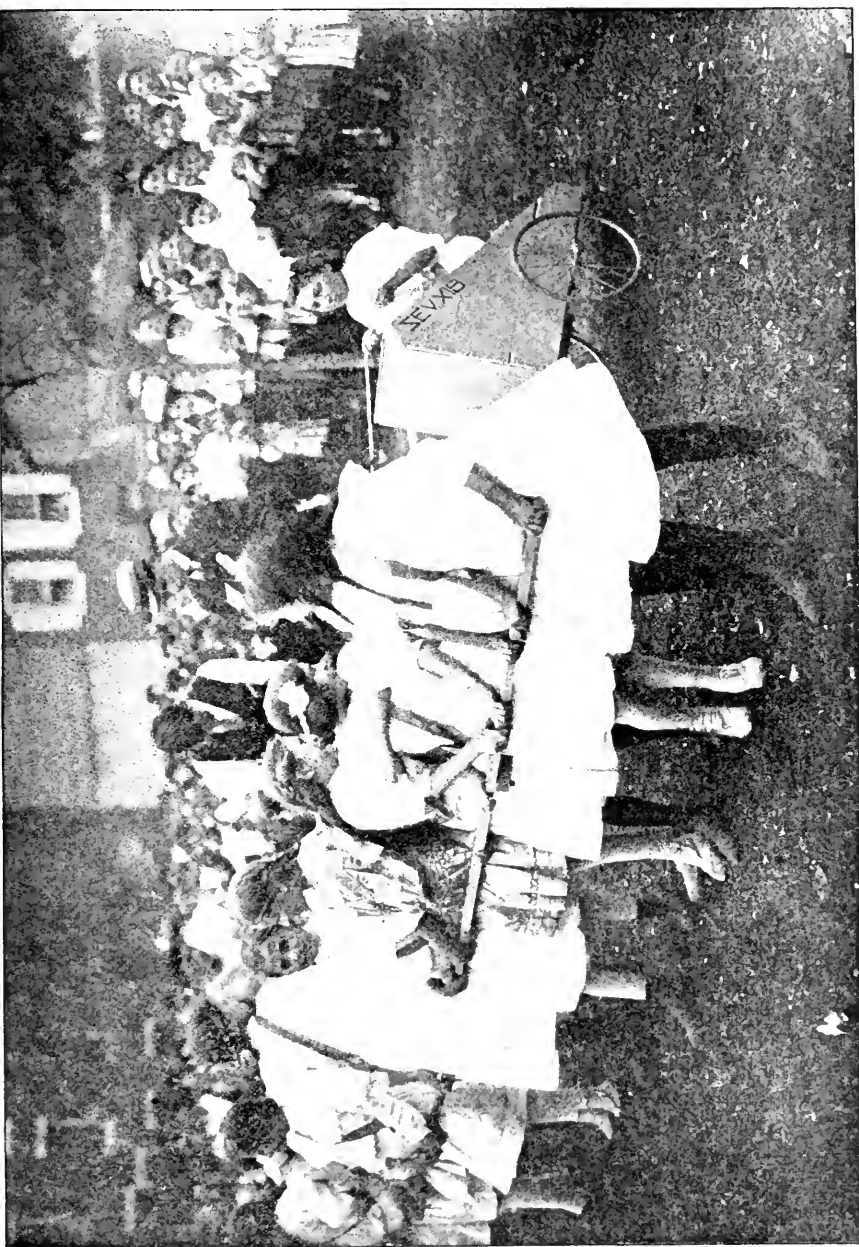
The manufacture of play equipments offers an aim and object to manual training work, which will not compete with any other established line of business. Furthermore the children will enjoy very much more a playground which they have made for themselves. A school in Minneapolis has just manufactured the entire equipment for its playground. The playground children of Washington, Indianapolis, Philadelphia and Boston have assisted with the manufacture of their own playground equipments. With regard to Philadelphia, Mr. Stetcher says:

All grounds also have occupation work both during the morning and afternoon. For this suitable material is supplied, like *reed for basketry, split cane for seat-caning, twine for hammocks, wood for woodwork, and the well-known paper materials employed in the kindergarten and lowest primary grades*. While formerly the larger children kept everything they made during the occupation hours, efforts have been made, during the last years, to turn this class of constructive work into channels that would directly benefit the playgrounds. It is a pleasure to report that these efforts have been entirely successful. *There is no loss of interest, when, as at present, besides making small articles for themselves, the children make play apparatus for their own ground as well as for other grounds. We now manufacture hammock stands and hammocks, so that "little mothers" bringing babies to the playgrounds can put the babies into a safe place under the charge of one girl or boy while the rest have a chance to play. A miniature of two styles of these stands is shown in the Philadelphia exhibit. We further manufacture stilts, stands for high jumping, tether bats, jumping boards, benches, seats for swings, checker-boards, grace hoops, and minor play materials of a like order.* All children like this occupation work.

We consider that such playgrounds will be much more valuable than the ready made ones, so that if apparatus were more expensive when made by the children, we should still advise that they make it and receive the training it would give.

The same principle also applies to the landscape gardening of playgrounds which should be done by the children as much as possible.

The playground plans, descriptions and specifications which follow have been designed from the knowledge gained by ten years of very close



Courtesy of Wm. A. Stecher.

CHARIOT RACE IN THE PHILADELPHIA PLAYGROUNDS

The children make the chariots in which they race

connection with playground work. They are also designed especially to conform to the abilities of rather unskilled labor. Our equipments have always been made and erected by common park employees. We think that none of the work is too intricate to be done by a boy 14 or 15 years old.

NOTE—In case large sized blue prints of any of these plans are desired, they can be secured. Plans for landscape gardening of playgrounds prepared for the use of children can also be secured.



HOME MADE GIANT STRIDES
Los Angeles

B. COMMON SENSE IN PLAYGROUND EQUIPMENT

There has been an immense amount of money wasted in the past few years on playground equipment. It has been thought necessary to have an elaborate equipment whenever there has been money enough to buy it. As a result we have numerous exhibits of pipe fitting and open plumbing stuck around in the various playgrounds of the country like pillars in the Sahara Desert, mute reminders of the development of styles of playground equipment. Chief among these is the gymnasium at Wood Island Park. If no apparatus whatever had been put on this playground and if the money invested in equipment could have been spent for adequate supervision it would have been enough to have maintained the playground in its proper condition probably from its origin to the present time.

Most of the playground apparatus used to-day is simply indoor gymnasium apparatus adapted for outdoor use. It is often put up with an entire disregard for the children's desire and need. Most of the apparatus which is at all valuable is that which the children have themselves developed, for instance the swing. We have no doubt that the first swing was invented by one of our "long-tailed ancestors," and consisted of grapevine hanging from a limb. The children of the race have consequently been rehearsing this stage of development to the present time, so that anything which swings is attractive to them. The same principle holds true with ladders, especially so if they are arranged so that the means of exit will be different from the place of entrance. Joseph Lee, in his admirable article on "A Home Playground," describes this trait of the children;* and in speaking of playground apparatus, he says—

The principle announced by the great English educator, Edward Thring, is a sound one. Whenever you can get a piece of wood or other inanimate object to do a certain piece of work for you, don't call upon the nerve tissue of your teachers to do that piece of work. Apparatus can largely meet the desire of the boy to show how great he is by the performance of marvelous feats. It has also the two other functions of serving to attract boys who may come to perform on the rings and stay to play a game, and of being a method by which the shy boy who does not happen to belong to any particular gang can find something to do and so get to be one of the playground crowd.

Now, apparatus which requires a teacher to get the children to use it and which does not appeal to their inherent interest has no place on the playground. The play director's time can be used to better advantage in teaching games than in keeping the children doing heavy apparatus work.

Dr. Arnold's paper on some inexpensive playground apparatus delivered before the Playground Congress was apropos. Not a great deal of apparatus is necessary although it has its place. Dr. Arnold speaks of the following:†

C. SOME INEXPENSIVE PLAYGROUND APPARATUS

THE JUMPING PIT. An excavation ten or more feet wide, thirty or more feet long, three or more feet deep at one of the narrow sides, running from this depth diagonally upward to the upper edge at the other narrow end. The sides of this pit are made secure by stout planks, properly prepared to withstand moisture. The ground around is well evened up.

The bottom of the pit is free of stones, and covered with at least six inches, if possible more, of good sand. In this pit babes may enjoy the sand play. Deep jumping from the sides at various heights into the sand is enjoyed by smaller children. For broad jumping, standing and running it is excellent. The first attempts at pole vaulting may be made from the edge of this pit. With some assistance tumbling may be done from the edges into the pit. The sand used in this jumping pit should be soft quick sand if the same can be obtained. This is far superior to sharp sand, or building sand. This jumping pit is the best city substitute for a sand bank. You all remember going Mayflowering and spending half the time jumping off the sand bank. The jumping pit combined with the horizontal ladder which is described later gives practically the same effect and is better adapted for use in schoolyards and for very small playgrounds.

* , †—Proceedings P. A. A., 1908.

THE BALANCING TREE. A large and perfectly straight tree fifty or more feet long with the bark removed is supported by two or three wooden feet, one at the extreme thick end, the other sufficiently far from the inner end to allow the thin end free play to swing. At the thicker end the tree may be two or more feet in diameter. It tapers to an end four to six inches in diameter, which is free to swing. The tree is so supported that its thicker end and its upper edge would be three to three and a half feet from the ground. The tree is then placed securely on its feet so that its long axis is horizontal. This tree, as its name implies, gives a chance for balancing exercises on a broad and steady and also on a more and more narrow surface, which sways and swings. It may be used for deep jumping and vaults of all kinds. In the more solid parts of the tree holes may be drilled and pommels may be fastened on it; then we have it serve all the purposes of a horse and saddle-boom. Children may ride on it astride, may swing on the movable part, and should in that position find great enjoyment.

THE HILLOCK. A small elevation on the playground, two to five feet high, from three to six feet wide at the base, tapering off toward the top, well covered with turf. Deep jumping, high jumping and hurling may be done on, and off, and over this. Pole vaulting from it may be taught. This gives opportunity for the much enjoyed frolic, rolling of children. In winter, when it is covered with snow, it gives a fine start for the sled. It invites war games for the possession of the top of it.

THE CLIMBING TREE. A straight tree no less than thirty feet high, made smooth, but not necessarily altogether even, is securely implanted. Its top is protected by a platform sufficiently wide not to allow its edges to be grasped by the climber. While this apparatus serves climbing primarily until the ingenuity of the child makes it the center for the other games, it furthers that type of climbing which is the normal and natural one, and which can be practised only on trees and for which the gymnasium climbing-pole gives no chance at all. Two of these may be made the end-support of the playground swings, poles, etc.

THE JUMPING STAIRS. Wooden stairs of ordinary construction leading with ten or twelve steps to a height of from six to eight feet run either to a platform, or better, to stairs of the same type leading down on the other side of the platform. If the sides of this are enclosed by boards, and a door is cut in, it may be made the receptacle for playground hand apparatus. These stairs are surrounded on all four sides with sand, of at least six inch thickness. Any one who has ever watched the great fondness of children for jumping stairs will know that the installation of this apparatus is only half completed before the children are beginning to make use of it for broad, high, and deep jumping. It may once more be used to start pole-vaulting. Some tumbling may be done from it. On the solid side of it targets may be painted. The sand around it gives a good place for the sand play of small children, but also for a free bout of friendly wrestling of boys.

These pieces of apparatus cost but little to install, are well-nigh indestructible, cost therefore little or nothing for repairs, take up little space, lend themselves to a thousand and one uses at the hands of the playground instructor, and, what is still better, suggest as many and more uses to the child himself.

In Louisville the play directors were on the grounds six hours a day and during that time the children were allowed to play on the grass, consequently the swings and giant strides were entirely deserted while organized play was going on. After the teacher left the grounds such of the children as desired went into the gymnasiums and used the apparatus.

D. WHAT APPARATUS TO HAVE

The following apparatus we have found the most valuable to the playground:

Swings, see-saws, giant strides, horizontal and parallel bars are the safest, most useful and the cheapest articles of playground equipment. The open air gymnasium with ladders, travelling and trick rings, trapeze, climbing and sliding poles, give the children opportunity for development of

arms and trunk and serve the psychological purpose of attracting attention to the playground; the effect is impressive. However, we have found that interest in the gymnasium apparatus wears off. Where only a limited amount of money is available, the outdoor gymnasium frame should be dispensed with.

A merry-go-round, designed to be used in the playground without danger of accident, would be a most valuable feature. Jumping standards, spring boards and playground slides are also very popular. The teeter ladders and revolving see-saw, or "flying Dutchman," give lots of fun, but are best adapted to large children; and then accidents are apt to happen if not closely watched.

The slide for life strikes me as being one of the best pieces of apparatus available.

In passing judgment on playground apparatus, the following points should be considered:

(a) Is it safe? Will it run itself, or will some one have to stay by it all the time to keep the children from accidents? The teeter ladder and "flying Dutchman" are examples of apparatus interesting but somewhat unsafe.

(b) Does it appeal to some fundamental instinct so that it will be interesting after the novelty wears off? Climbing poles and ladders, for instance. Any pieces of apparatus which include the act of falling, swinging, or gliding, conquering time and space, seem to take the place of foreign travel to the city child, and are intrinsically interesting. The horizontal and parallel bars, other gymnastic apparatus, jumping standards, etc., depend upon competition and teaching for their interest.

(c) Simplicity. The less adjustability the better from an administrative standpoint. Have different sizes of apparatus for children of different ages.

(d) Expense.

(e) Durability. In all probability the city would be liable for accidents occurring from breakage of apparatus.

Playground apparatus which can stand 365 days of hard service each year, during the rains of spring, alternating with blistering sunshine and alkali dust, together with dry heat for the rest of the year, is hard to find. Last year two complete gymnasium equipments of a standard make were purchased for use in the playgrounds of one city. It was found necessary this year to replace all the rope and wooden parts with the exception of the ladders which are preserved by varnishing and dressing every few weeks.

During the first part of my experience as supervisor of playgrounds we didn't have the money to purchase ready-made apparatus, so I had to

make it. After acquiring the habit it goes against the grain to pay money needed for land or teacher, for equipment which is not just what is wanted, when more satisfactory apparatus can be made at two-thirds the cost.

See also Joseph Lee, *Home Playground Proceedings*, 1908; same, *Play and Playgrounds—Our Civic League*; same, *A System of Playgrounds, Chautauquan*, June, 1906.

E. MATERIALS

Wood and rope should be dispensed with as far as possible in the construction of playground apparatus, and galvanized metal wire cable and galvanized chain should take its place.

1. ROPE. If rope is used it should be $\frac{3}{4}$ " strand, best quality Manilla rope. Baby swings can be made with $\frac{1}{2}$ " three strand Manilla rope. All rope before using should be uncoiled and hung outdoors so that it will be exposed to the rain and to the effect of the sun. It should be stretched until the stretch is all out of it and then it should be tarred with a thin solution of pine tar.

2. STEEL CABLE AND HEMP ROPE. There is a variety of rope which we think will last for years if not forever. It is made of small strands of steel wire, closely twisted and then wound with tarred hemp, after which each strand is made up into rope. It is, however, very expensive, but in the long run we think it would be cheaper than Manilla, because it would be unnecessary to make repairs. $\frac{5}{8}$ " rope would be the smallest size which is practicable to use. This size costs 21 cents to 25 cents per foot wholesale, while $\frac{3}{4}$ " Manilla rope costs only about three cents a foot or less.

3. FRAMES. Three inch standard wrought iron pipe is the best material which can be used in making frames. These pipes should be set in concrete and they may be held together by standard "tees" and "ells," or universal frame clamps may be used. The use of these clamps is described later and they make a great saving in the cost of erection.

In a country where timber is cheap wood frames may be advisable. Wooden uprights may be used with pipe tops. The timber can be used and fitted to the Universal Clamps. Red-wood bears contact with the ground well and would be good for uprights.

4. FRICTIONLESS JOINTS. There are no perfect frictionless joints on the market. Ball bearing joints become clogged with dirt and sand so that they wear out. Dr. Curtis maintains that they make the swings run easy and that the children want to swing in them all day and this seems to us quite reasonable. There are children whose only wish in life seems to be swinging and special efforts should be made to get them out of that stage. A little swinging is good—too much is bad for the child. The only value of frictionless joints is to prevent wear and accidents. The rockers to rocking joints wear out unless they are made of hardened steel which is quite expensive. The perfect joint is still to be discovered

5. **WOOD.** The kind of wood used will depend to a certain extent upon the piece of apparatus. When considerable strength with extreme lightness is desired, New England spruce is the best. Southern or Long Leaf Pine is about as strong as spruce, perhaps a little stronger but much heavier. White ash is light and very strong. These three woods are all more or less subject to splintering. The Southern Pine perhaps splinters the least of any of them. Washington fir or Washington pine or spruce, as it is sometimes called, is very similar to New England spruce and much easier to obtain. It is especially good about warping. White oak is a very tough, close grained wood, which does not splinter and is valuable for anything which receives considerable wear, such as swing boards, climbing poles, etc. It stands the weather well but is very apt to check. Hickory is the strongest of the woods, but does not stand the weather well. Rock maple is a fine, close grained wood, which wears well and is not affected badly by moisture. (It is the wood usually used in making washing machines.) Rock maple is good for use on playground slides, and is one of the cheapest woods. Do not get white maple; it is no good.

To secure the best results all wood used in the construction of playground apparatus should be very carefully kiln-dried, after which it should be either soaked in linseed oil or covered with enough coats to nearly saturate it. After it is dried a coat of shellac should be applied, then a coat of the best spar varnish. All parts which go into the ground should be covered with one or two coats of tar.

Boiled linseed oil gives the best finish to the wood but it is more expensive than raw linseed oil. There are a number of waterproofing materials for wood on the market and if any one would care to test any of them we would be glad to furnish the addresses of the houses selling them. This might be an interesting study to some of the playground manual training instructors or students.

6. **CONCRETE.** Directions for making concrete can be secured from any of the wholesale dealers in Portland Cement. We have used both natural and Portland Cement in erecting frames. The concrete made from natural cement was 1 to 3 mixture which means 1 part cement, 1 part sand, and 3 parts crushed rock or clean gravel. The proportions of 1 part cement, 2 or $2\frac{1}{2}$ parts sand, and 3, 5 or 8 parts of gravel or crushed rock, are recommended for use with some brands of cement. Where gravel is used not so much sand is needed. When using the Portland Cement we used the 1 to 5 mixture. Most contractors when setting up your equipment of apparatus for you would use a 1 to 8 mixture, especially if you were not looking. And for this reason it is best always to set up your own frames. Concrete should be mixed rather dry so as to tamp in place.



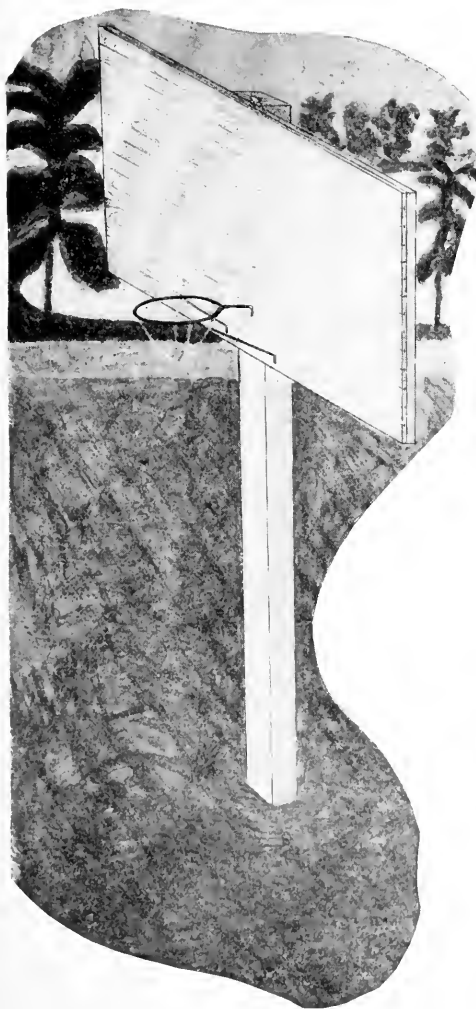
CHAPTER XXVI*

PLAYCRAFT—HOME MADE APPARATUS

PLANS, SPECIFICATIONS AND DIRECTIONS FOR THE MANUFACTURE OF THE SAME

BY A. AND L. H. LELAND
Playground Architects
Templeton, Mass.

No. 1



PLAN OF CONSTRUCTION AND
SPECIFICATIONS FOR BASKET
BALL GOALS AND SCREENS,
AND IRON PIPE JUMP
STANDARDS

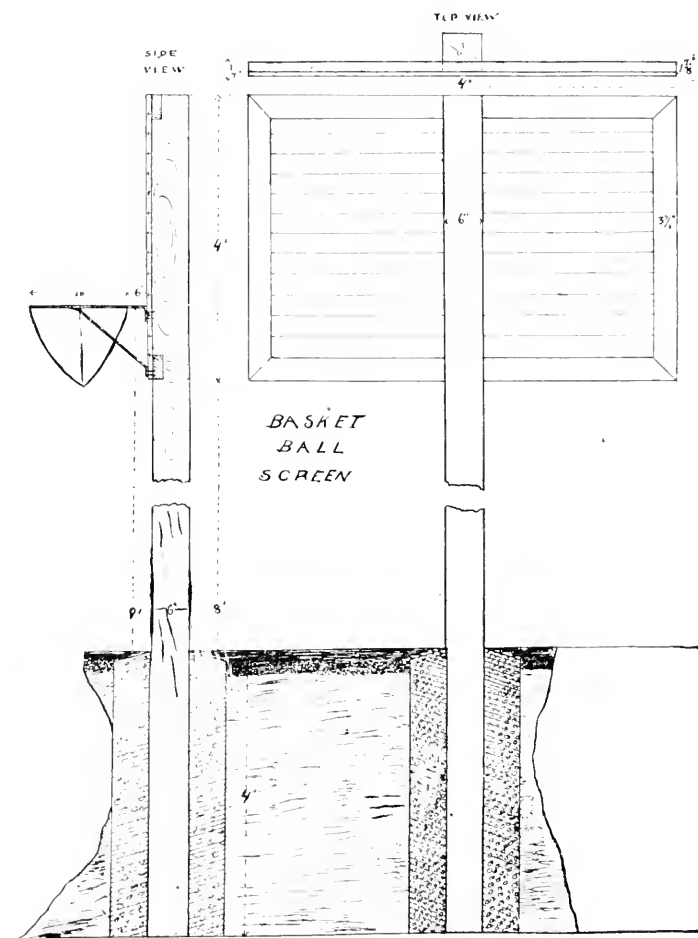
SCREENS. Screens shall be made of thoroughly well seasoned lumber or kiln dried lumber. The frame shall be made of No. 1 spruce or Southern pine, dressed 4 sides, $1\frac{7}{8}$ " x $3\frac{7}{8}$ " net. Size of screen over all shall be 6' x 4'. Face of screen shall be made of No. 1 D. and M. fencing, securely attached to frame work.

The face of this screen may be made of No. 14 or No. 11 galvanized wire.

*This chapter is also issued in the form of Reprints for contractor's use in preparing bids and in the construction of apparatus.

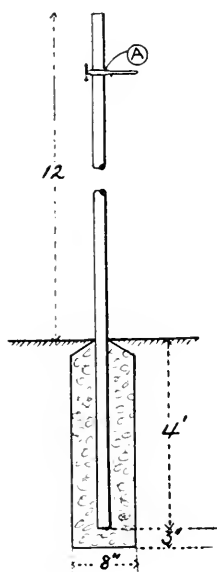
POSTS. Posts shall be made of No. 1 spruce or Southern pine, 6" x 6" x 16', dressed 4 sides, with 4' on 1 end covered with tar. At other end posts must be fitted so as to hold screen which is to be held in place by two $\frac{1}{2}$ " x 6 $\frac{3}{4}$ " carriage bolts with washers, which contractor will furnish, boring holes through post and screen to receive the same.

FINISH. All wood work must be finished either with 2 coats of first class outdoor paint, dark bronze green, except face of the screen which shall be finished with 2 coats of lighter color best outdoor paint; or with 1 coat boiled linseed oil, 1 coat shellac, and 1 coat best spar varnish.



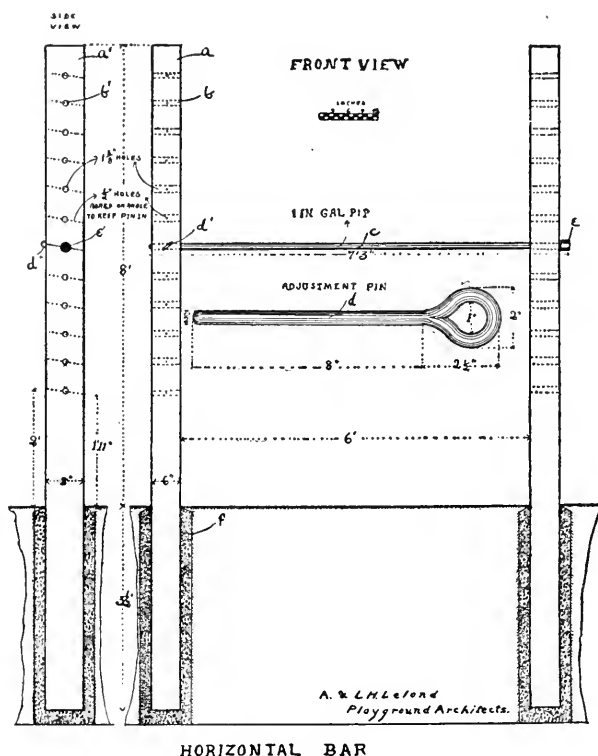
Erection—Posts should be set in a 5 to 1 mixture of concrete, as per plan.

JUMP STANDARDS. Wrought iron pipe makes the best jump standards for the money. Take 2 pieces $1\frac{1}{4}" \times 16'$. Paint the inches on them with white paint, alternating bands of black and white and set in concrete. The little fitting (A, Fig. 1), which holds on the bar can be purchased for 50 cents each. For a jumping stick, use a piece of square steel tubing 20 gauge $\times 13'$ painted white. Round tubing with the ends flattened so as not to roll, may be used.



JUMP STANDARD

No. 2



PLAN OF CONSTRUCTION AND SPECIFICATIONS FOR HORIZONTAL BARS

POSTS. Posts to be of well seasoned or kiln dried oak, spruce or Southern pine, 6" x 8" x 11½', dressed 4 sides, and bored according to the plan appended.

BAR. Bar to be made of a selected, smooth piece of 1" galvanized wrought iron pipe, 7'3" long, with a 1" galvanized cap, threaded upon 1 end, and with a ½" hole drilled through the pipe, 3½" from the other end, through which the adjustment pin is inserted. All roughness and sharp edges must be removed from the pipe.

HORIZONTAL BAR OF STEEL SHAFTING, 1¼" in diameter may be used in place of the galvanized pipe. This bar should be galvanized to protect it from the weather.

ADJUSTMENT PIN. Adjustment pin should be made of wrought iron or mild steel, 0000000 gauge, which will just slip into $\frac{1}{2}$ " hole (if this gauge is not easily obtainable use $\frac{1}{2}$ " rod and make the holes through the post 1-32" or 1-16" larger than $\frac{1}{2}$ ". Pin should be welded in shape as per plan.

FINISH. Posts, where put in the ground, should be coated with tar. Other wood work must be finished either with 2 coats first class outdoor paint, dark bronze green, or with 1 coat boiled linseed oil, 1 coat shellac, 1 coat best spar varnish.

NOTE—Posts should be set in a 5 to 1 mixture of concrete, as per plan. Whenever different kinds of materials are mentioned, cross out what you do *not* wish.

PARALLEL BARS. Parallel bar tops should be made of metal, steel or brass tubing, $1\frac{1}{2}$ " in diameter and ten feet long, with the ends rounded. The ends may be rounded by tapping a thread on the inside, plugging the ends, and then filling with lead or brass and filing the ends round and smooth. Two inch galvanized pipe uprights, with 2" x 8" flanges on the bottom should be used. Each of these should be set on a bed of concrete 2' x 18", so that the bars would be 15" apart for boys and 18" apart for men. The usefulness of the bars will increase if the pipe uprights are set in at an angle so that the bottoms are 8" farther apart than the tops. Wooden bars may be used for the tops; these should be of white oak or hickory and should be not over 9" long. Both wood and metal bars are attached to uprights by castings which cost about fifty cents apiece. When these castings are used the bars may be taken in at night.

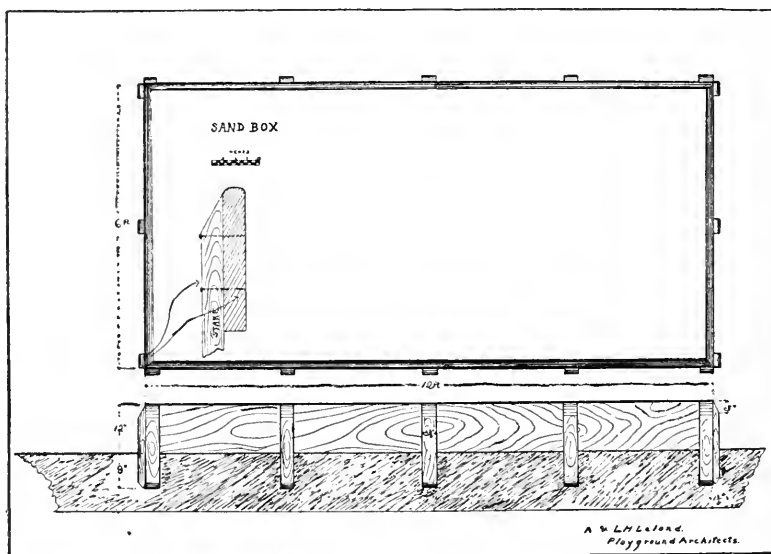
On the whole we have not found parallel bars of much use on the playgrounds.

No. 3

PLAN OF CONSTRUCTION AND SPECIFICATIONS FOR SAND BOX

SIDES OF BOX. Sides of boxes shall be made of thoroughly well seasoned lumber, No. 1 spruce or Southern pine, dressed 4 sides, $1\frac{7}{8}$ " x 12" net. The upper edges of the boxes shall be rounded off as indicated in the appended plan. Kiln dried is best.

STAKES. Stakes shall be made of thoroughly well seasoned No. 1 spruce, Southern pine, or cedar, with the ends which go in the ground dipped in tar. Upper end of stake to be finished as indicated in plan.

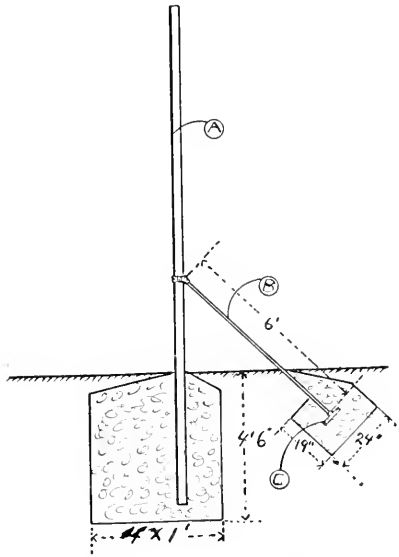


FINISH. All wood work must be finished either with 2 coats of first class outdoor paint, dark bronze green; or with 1 coat boiled linseed oil, 1 coat shellac, 1 coat best spar varnish.

SAND BOXES. Sand boxes are the main essential for the play of small children. The kind illustrated is good, but it is sometimes preferable to make them half the width in order to keep the children from getting inside.

Some thin boards about 10" wide should be laid across the top of the sand box for the children to use in molding, etc.

RAISED SAND BOXES. Very often, legs and a bottom are put on a sand box. This makes it impossible for the children to get in and gives a shady place underneath in which to play with blocks.



PLAN OF FRAME BRACE

FRAME BRACES. In case the frames set up as directed should move, brace them in the manner illustrated. B represents a piece of blk. pipe 1 1/4" x 6', thread 2 ends. C is a 1 1/4" x 6" cast flange. Pipe B is attached to pipe A by special 45° castings. The end is set in concrete. In case concrete should be very expensive in your city, a smaller amount may be used for pipe A and two braces used.

No. 4

PLAN OF CONSTRUCTION, SPECIFICATIONS AND CONTRACT FOR FURNISHING
FLYING DUTCHMAN

FLYING DUTCHMAN
Used in St. Paul six years. Cost \$15.00

CONTRACT FOR FURNISHING FLYING DUTCHMAN.

KNOW ALL MEN BY THESE PRESENTS, that this agreement made this _____ day of _____, A. D. 19____,

between _____ party of the first part,

and _____ party of the second part,

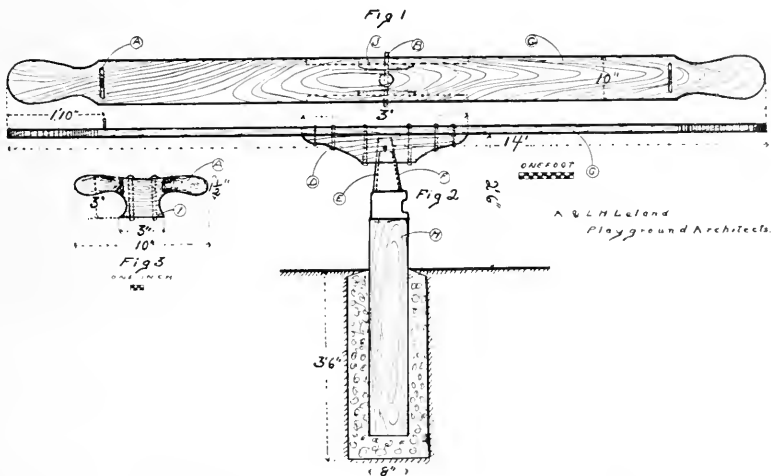
WITNESSETH, that the party of the first part agrees to furnish and deliver at whichever playground specified, _____ flying dutchmen, made according to the specifications hereinafter recorded, and according to plan appended.

Party of the second part shall direct the place of delivery and when work is completed according to specifications, agrees to pay to party of the first part the sum of _____ dollars.

SPECIFICATIONS

BOARD. (Fig. 1 G.) To be made of oak, white ash, or Southern pine, thoroughly seasoned or kiln dried, $1\frac{7}{8}$ " x 2" x 14', dressed 4 sides and sanded, with the ends milled as per appended plan and edges rounded as far as the handles.

HANDLES. Handles are made as per plan from a piece of oak, 2" x 3" x 10", thoroughly smoothed and sanded, and are attached to board by means of $2\frac{1}{4}$ " x 5" carriage bolts (Fig. 3 I).



(WORKING DRAWING OF FLYING DUTCHMAN)

PIVOT. Board pivots and revolves by means of $\frac{3}{4}$ " x 11" steel shaft (Fig. 1 B) which is inserted into the sides of a piece of plank of hard wood, 2" x 6" x 3' (Fig. 2 D). This plank is attached to the under side of the see-saw board by means of $2\frac{3}{8}$ " x 8", $2\frac{3}{8}$ " x 6" and $2\frac{1}{4}$ " x $4\frac{1}{2}$ " carriage bolts, which run through it and into the board.

REVOLVING AXIS. The revolving motion is secured by taking a $3\frac{1}{2}$ " wagon skein (Fig. 2, E & F), sawing off the inner piece (Fig. 2 E) so that the outer portion (Fig. 2 F), when attached to the rod (Fig. 1 B) by means of having a hole drilled through it, will revolve around on E as an axis.

On the inside of D, attached to it by screws, is a piece of hard wood (J) 1" thick in the center, tapering at the end to $\frac{3}{4}$ ", 3" wide and 12" long

(see Fig. 1). This serves to prevent the top board from any lateral movement which would otherwise take place as the top of F is narrower than the space between the 2 side pieces D.

POST. The post is made from a piece of Washington fir or Southern pine, 8" x 8" x 5', dressed on 4 sides, with the corners chamfered and fitted at the upper end so as to receive the wagon skein. The lower end of this post is to be coated with tar and set in 5 to 1 mixture concrete, as per plan.

FINISH. All wood work is to be finished with 3 coats of boiled linseed oil, 1 coat shellac and 1 coat best spar varnish.

All work must be done according to the plan and in first class workmanship manner.

WITNESS our hands and seals the day and year first above written.

_____(SEAL).

_____(SEAL).

NOTE—Wherever different kinds of materials are mentioned, cross out what you do *not* wish. Use same form of contract for all wood work.

No. 5

DIRECTIONS FOR MAKING AND ERECTING SWING FRAMES WITH STANDARD FITTINGS



WE NEED TO PLAY IN WINTER

SPECIFICATIONS

All pipe for frame shall be seamless, lap-welded wrought iron pipe. All fittings shall be malleable.

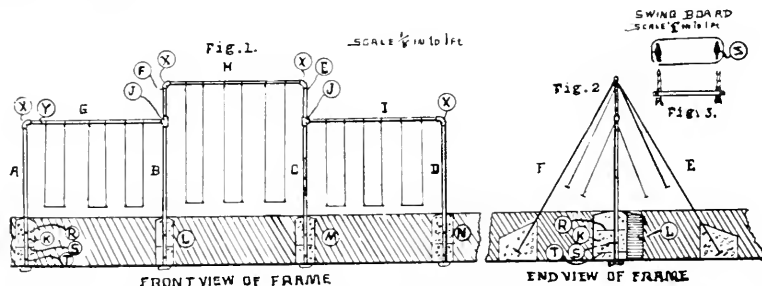
PIPE AND FITTINGS REQUIRED. (See Fig. 1 Iron Pipe Swings.) A and D are 2 pieces of blk. pipe 3" x 12', threaded on 1 end. B and C are 2 pieces of blk. pipe 3" x 15' threaded on 1 end. R, S and T are 3 pieces wrought iron rod inserted through holes drilled through the bottoms of pipes A, B, C and D, the lowest one of these holes (T) being 6" from the bottom of the pipe, and the other two are at S, being each 1' apart.

H is one piece blk. pipe 3" x 11'6", threaded both ends. G & I are 2 pieces blk. pipe 3" x 10'6", threaded both ends. X is four 3" x 3" blk. malleable ells. J is 2 blk. mall. 3" tees, reamed and shrunk onto 3" pipe and riveted in place with hot $\frac{1}{2}$ " rivets. (Great care must be observed in

placing these reamed tees so that bottoms of pipes A and D shall be in a straight line with the bottoms of pipes B and C.)

BRACES. The frame is braced by 2 braces (Fig. 2 E and F), made of $\frac{3}{4}$ " round iron, with a $\frac{3}{4}$ " eye at each end, the upper ends to be attached to the frame by means of home made swing fitting, the eye to the brace fitting in where the swing hook is indicated (detail of this fitting may be seen in Reprint No. 6); the lower ends of these brace rods have short pieces of $\frac{3}{4}$ " round iron inserted through the eye and set in concrete as indicated in Fig. 2.

LEVELLING THE GROUND. Dig the holes about $4\frac{1}{2}'$ deep, drive stakes in the ground on the outside of hole N and hole K. About 6" above the surface of the ground attach a stove pipe wire to the stake at hole N and run this stove pipe wire over to the stake at hole K. Then take a carpenter's or mason's level and hold it midway between the 2 holes, against the under side of the stove pipe wire. Have your assistant raise or lower the loose end of the wire until the wire is very nearly level, then drive stakes outside holes L and M in line with the other 2 stakes so that when the wire rests upon the top of these stakes last driven, it will in all of its parts be level. After this has been accomplished, take 4 stakes about 10" or 12" long, and drive them down in the bottom of each hole until the top of each stake is equidistant from the stove pipe wire. The distance from the top of the ground to the top of the stakes should be approximately 4'; if the ground is on a slant an average should be struck. After the stakes are driven properly, fill the holes with concrete up to the top of the stake, and while this is drying put your frame together.



IRON PIPE SWINGS—FIGURES 1, 2 AND 3 ($\frac{1}{2}$ SCALE)

ERECTION OF THE FRAME. The frame must be put together on the ground, the ends slid into the holes, the whole thing raised at once, braced plumb, in line, level and then cemented in. All of which is no small job. The method is as follows:

Select the most level side of the holes, attach the 2 elbows (X) to pipe H; by holding the pipe with a 3" pipe wrench and screwing the fitting on

with an old bat club or other piece of hard wood, this feat can be accomplished with 1 wrench. Next take pipes B and C and put their lower ends just by the near edges of the holes and screw the other ends into the elbow X, which is connected to pipe H. Then screw the elbows on the outside ends of pipes G and I, then screw the other ends of these 2 pipes into the tees (J). Next screw pipes A and D into the elbows which are attached to the ends of pipes I and G. Next take a chalk line and get the lower ends of pipes A, B, C and D in a straight line, with their lower ends just resting over the inside edge of the hole. The next process is to get four boys to hold planks on the sides of the holes opposite the ends of the pipe (this is to keep the pipe from digging holes, when it is raised). Place a good husky laborer back of each pipe with a short piece of 2 x 4; station your foreman back of pipe H with a long 2 x 4 (about 16' long) and have 2 x 4s about 12' long within easy reach back of pipes A, B, C and D. Have your men get underneath and take a lift, holding the frame up, with the short 2 x 4s, while they rest, and so on until the frame is in the bottom of the hole. Line up all the pipes and plumb them, holding them in place by 2 x 4s nailed across each other on each pipe, and bracing the ends of the two outside pipes A and D. As soon as all pipes are in line and plumbed, put in the concrete, which should be a 5 to 1 mixture with Portland cement.

ESTIMATES.

Pipe 87' 3" at 25c to 30c per foot,	\$21.75 to \$26.10
Four 3" ells,	2.40 2.40
Two 3" tees,	1.86 1.86
Reaming out and drilling two 3" tees	1.00 to 2.00
Cutting 8 threads (40c each),	3.20 3.20
Concrete required, about 2½ yards at \$5.00 to \$6.00 per yd.	12.50 to 15.00
*Labor, foreman 2 to 3 days at \$4.00 per day	8.00 to 12.00
Four common laborers, 2 to 3 days at \$2.00 per day	16.00 to 24.00
	<hr/> \$66.71 \$86.56

CAUTION. Don't be in a hurry about concreting the frame. It does not pay. It is pretty hard work to pick the concrete out if you don't get it in just right. We dug one out and so appreciate this fact.

Cover the holes up at night. Have a watchman while the concrete is hardening.

(For swings and swing fittings for this frame, see article under swings and rope fittings, Reprint No. 6.)

*Should it rain so as to fill up the holes, the expense will be increased greatly. When we were putting up the St. Paul frames we had to dig the holes out every day for a week, and finally had to set the frame up on Sunday, the only pleasant day we could get.

DIRECTIONS FOR MAKING AND ERECTING SWING FRAMES WITH UNIVERSAL CLAMP FITTINGS

SPECIFICATIONS

All pipe for frame shall be seamless, lap welded, wrought iron pipe. All fittings shall be malleable.

PIPE REQUIRED. (See Equipment No. 1 A.)

- 5 pieces blk. pipe, 3" x 12', with or without thread.
- 2 pieces blk. pipe, 3" x 15', with or without thread.
- Total 90' blk. pipe at 25c to 30c per foot.

FITTINGS REQUIRED.

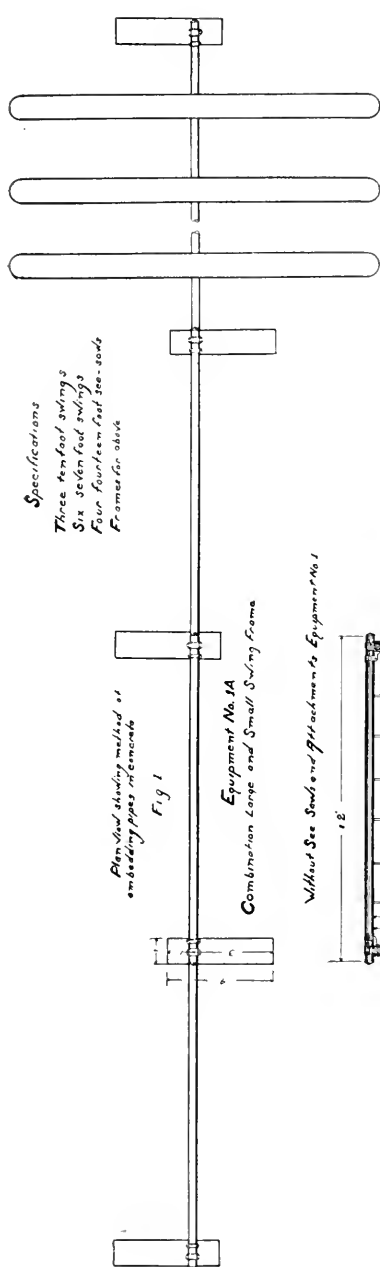
- 2 Universal Tees, at \$3.00 each.
- 4 Universal Ells, at \$2.75 each.

BRACES. The frame may be braced in the same manner as is the frame using standard fittings, or it may be braced by use of a 1 $\frac{1}{4}$ " x 16' blk. iron pipe, threaded 2 ends, attached to the frame by a 45° clamp and with a 1 $\frac{1}{4}$ " x 6" flange set in concrete. (See Reprint No. 3.) This pipe will cost about 10c per foot, the threads 12c each. The special casting mentioned will cost about \$1.00.

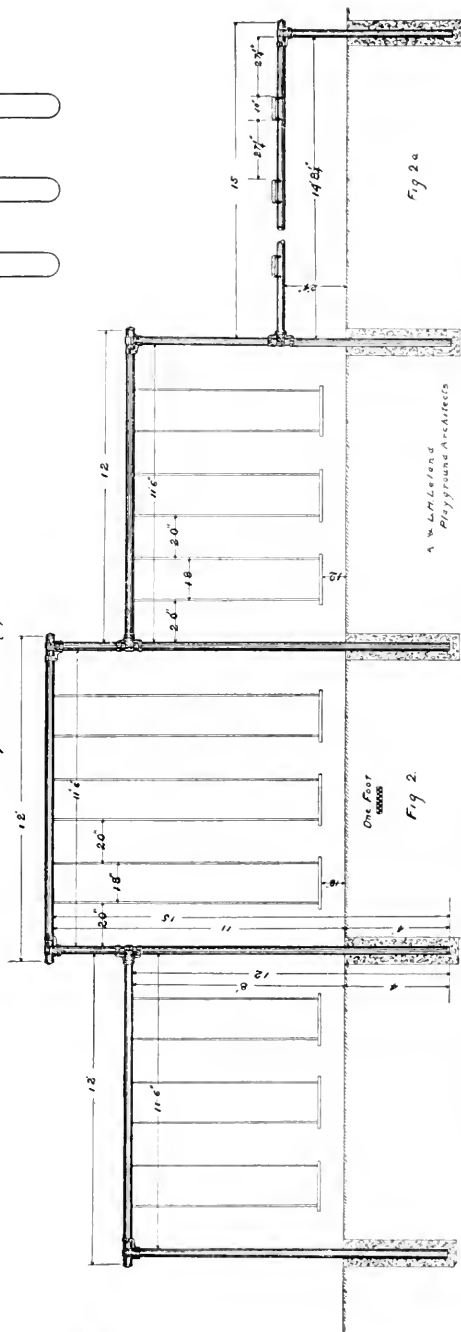
LEVELLING THE GROUND. It is not necessary to level the holes as carefully with this type swing as when using standard fittings. The 2 middle pipes must be placed level. The 2 outside pipes near enough level to look right. The universal bolted fitting which is adjustable on the pipe, makes this possible. The frame can be set up on quite a steep side hill, without inconvenience, in terraces, accommodating itself to all kinds of surfaces. Whenever possible however I should level the ground either in the manner before mentioned or with the assistance of an engineer. We would advise following the method before mentioned with regard to making a foundation for the pipe.

ERECTION OF THE FRAME. The universal fitting makes the erection of the frame a very easy matter. After the holes are levelled on the bottom, set up the 2 outside pipes, with the proper fittings loosely attached. Brace these pipes by means of three 2 x 4s nailed together so that their bases form a triangle. Get the pipes plumb, and then concrete them. The 2 center pipes are to be erected in the same way.

After the concrete has hardened, take the 2 lower top pipes, lift up into place in the clamps using a step ladder, then bolt into place. Standing on top of these 2 pipes haul up the highest pipe, lay that on top and bolt into place. Care must be taken, of course, to line up the 4 upright pipes.



Without See Saws and Attachments Equipment No. 1



FIGURES 1 AND 2—SWING FRAME, MADE WITH UNIVERSAL CLAMP FITTINGS

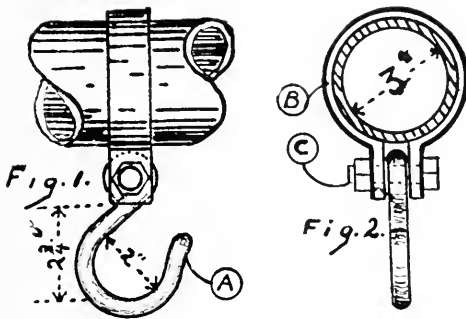
ESTIMATES.

Pipe, 90' 3" at 25c. to 30c. per foot	\$22.50 to \$27.00
Fittings, Universal	17.00 17.00
Concrete, 2½ yds. at \$5.00 to \$6.00	12.50 to 15.00
*Labor, foreman ½ day to 1 day at \$4.00	2.00 to 4.00
Two common laborers ½ day to 1 day at \$2.00 per day	2.00 to 4.00
	<hr/>
	\$56.00 to \$67.00

For swings and swing fittings for this frame see Reprint No. 6.

*On account of the short time required in setting up this frame there is little danger of rain or children filling up holes and causing extra expense.

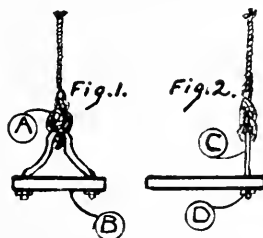
No. 6



HOME-MADE SWING FITTINGS

DIRECTIONS FOR MAKING HOME-MADE SWING FITTING

This fitting can be made by the Manual Training class in forging or by a blacksmith. The detail is shown in Fig. 1 and Fig. 2. B is a wrought iron or mild steel band 5-16" x 1½", bent to fit around 3" pipe (which is 3½" outside measurement). Hole is drilled through the bottom ends of this band and a ½" x 2½" hexagon head and nut machine bolt (C) is inserted through, holding in place hook (A) which is made of ½" wrought iron, and upon which the eye to the swing or other apparatus hangs. It is advisable to put these fittings on the pipe before the frame is put together, as it will be difficult to get them to fit the pipe without considerable hammering.



HOME-MADE SWING BOARD AND ATTACHMENT

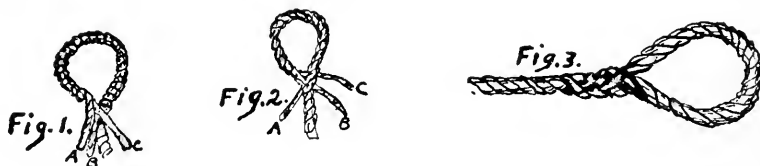
HOME MADE SWING BOARD AND ROPE PROTECTIVE ATTACHMENT

Fig. 1 is an end view of the swing board and Fig. 2 shows one side. There are various opinions regarding the proper weight for swing boards. The heavier they are, the less danger of their breaking, and the greater danger there is of their breaking the children's heads. We have always preferred to save heads, perhaps at the expense of the boards, and for this

reason have always made our swing boards of the following dimensions and materials. Kiln dried oak $\frac{3}{4}$ " x 6" x 18", with the corners rounded on a quarter circle and the edges smoothed and sanded. These boards should be given 4 or 5 coats of linseed oil, or better still soaked for a week in the oil.

The rope protective attachment is shown in Fig. 1 and Fig. 2. The wire (C) is made of $\frac{3}{8}$ " stock with a loop up at the top (A) and the bottom ends are threaded and run through the boards and through an iron plate (B) at the bottom of the board near the ends. Then a nut (D) is screwed onto the stirrup. This plate underneath is $\frac{1}{4}$ " x $\frac{3}{4}$ " x $5\frac{1}{2}$ ", with the ends rounded so as to have no sharp points. It is held in place upon the board by means of a couple of screws. The distance from the end of the board to the center of the hole, through which the stirrup goes, is $1\frac{1}{4}$ ". The distance from the sides of the board to the center of the hole through which the stirrup runs should be 1".

The method of attaching rope to this stirrup is as follows: Rope is run down through the loop (A) in under the place where the 2 wires forming the loop cross each other, and then back again through the loop (A) in the opposite direction from which it went through first. Then the end is spliced into the perpendicular piece of rope. Fig. 2 gives a good idea of the way this will look when completed. This crossing of the rope makes a firm hitch and does away with the necessity of using a rope eye at this point, which we consider dangerous as the children are liable to catch their hands in it.



SPLICE FOR PLAYGROUND APPARATUS

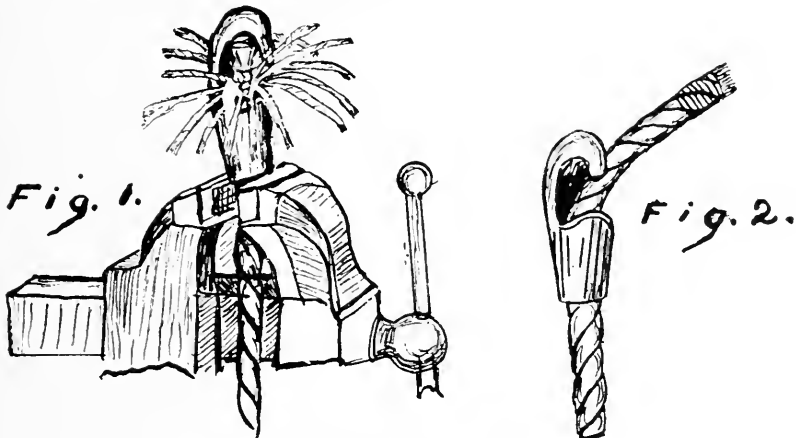
EYE SPLICE FOR USE ON PLAYGROUND APPARATUS. The home-made swing fitting requires that the rope hanging from it be spliced around a galvanized eye. The method of splicing is as follows:

Unravel the three strands of rope and lay them across the main body of the rope in the order A, B, C, as shown in Fig. 1. Push strand C through the rope as shown in Fig. 2, then put strand B over the part through which C has passed and push under the next strand, and last push strand A through on the opposite side. When this is done, repeat 2 or 3 times until the splice assumes the form in Fig. 3. Then cut off the end and if the splice is to be down where the children can reach it, wind and sew with lashing twine. Care should be taken to pull the strands tight over the eye.

DIRECTIONS FOR ASSEMBLING SWING USING SPECIAL CASTINGS

A picture of this is shown on pages 98 and 221. There are a variety of so called frictionless joints. So far as we know none of them are friction-

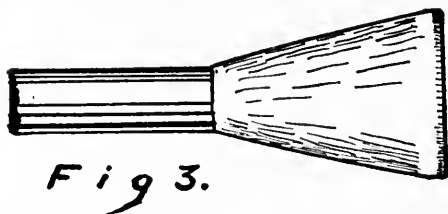
less. Ball bearing joints get dry and rust and rocker fittings wear out, especially when made of malleable iron. Of course it is very important from the point of safety for all attachments of playground apparatus to be so made that they cannot wear out even when badly neglected. We have tested the rocker fitting alluded to and find that when all the wearing surfaces are made out of cast tool steel, the wearing qualities of the fitting are increased many times. Incidentally we might state that this tool steel costs about 3 times as much as malleable iron.



ROPE ATTACHMENTS

The method of attaching rope to the eye of the rocker is as follows: the end of the rope is carefully wound and thrust up through the bottom of the hook (see Fig. 2), about 5" of the rope protruding through the mouth of the hook. Then take the rope and put it in a vise so that the lower edges of the hook rest against the jaws of the vise which is tightened to keep the rope from slipping out (see Fig. 1). The strands of the rope are now all unravelled as far as the hook, opened up, and spread out carefully so as to have a hole in the center with the fringe of rope equally distributed all around it. Then a wedge screw, which we will describe later, is inserted into this center of the rope and pounded down with a hammer until it fits inside the hook coming just below the under side of the top of the hook. Then a screw driver is inserted between the top of the wedge screw and the hook; on this screw driver blows from a hammer are applied until the wedge screw is pounded down into the inside of the casting. Great care should be taken to see that the wedge screw goes down straight and that it has rope on all sides of it and that the rope is not pushed down through the hook. If an iron vise is used it would be best to put some soft material like canvas over the jaws to prevent cutting the rope. After the operations are completed cut off the loose strands of the rope being careful to cut at least $\frac{1}{4}$ " above the top of the wedge screw.

MOLDING WEDGE SCREWS. Fig. 3 shows a pattern which is used in making the wedge screw. This pattern can be turned out or can be whittled out as desired.

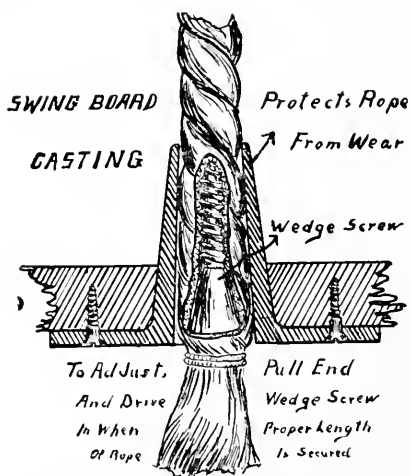


(Make head $\frac{1}{4}$ " shorter, $\frac{1}{16}$ " less in diameter than shown in cut.)

Make a small box about 6" square and 4" deep. Fill this with moulding sand, which can be secured at a foundry. Push the little pattern down into the sand, making a number of impressions. Then put into each one of these holes a $\frac{3}{8}$ " x 2" lag screw end (if a lag screw end is unobtainable, saw the head off a lag screw). Apply a little hydrochloric acid with a stick to each piece of iron and then pour melted lead into the mold. This will make a finished wedge screw, which can be used in assembling the swing.

SWING BOARD AND ROPE PROTECTIVE CASTING. The swing board used should be the same as that described under Home Made Swings.

For attaching swing board to swing board rope a casting having a cylinder running through the board is used. This casting is screwed to the bottom of the board with $\frac{1}{8}$ " screws and the rope is held inside it in the same manner as in the hook. The rope should be left 6" to 8" long below the swing board in order to make it possible to pull the rope out and shorten it up in case it stretches.



ADJUSTABLE SWING BOARD FITTING

The holes for these swing board castings should be bored in the center of each end. Two inches in from the outside to the center of the hole, commencing on the bottom side of the board, bore a hole $1\frac{1}{16}$ " in diameter. This hole should be bored to the depth of $\frac{1}{2}$ ". Remove the bit and bore another hole $1\frac{7}{16}$ " through the remaining thickness of the board; with a little fitting the swing board casting will exactly fit.

ESTIMATE.

The swing boards described, when treated with oil, will probably cost about 75c each.

Rough casting of hook will cost about 15c each.

Rough swing board seat casting would cost about 25c each.

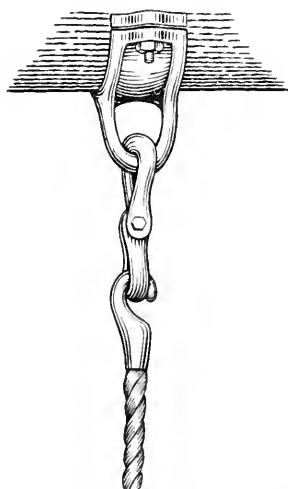
Rough castings for the frictionless joint connection would cost

Cast tool steel, about \$3.00 per pair;

Malleable iron about \$2.00 per pair.

$\frac{1}{2}$ " x 2" hex. head and nut machine bolts for attaching clamps to frame cost about $2\frac{1}{2}$ c each.

$\frac{3}{8}$ " x $1\frac{3}{4}$ " hex. head and nut machine bolts for attaching eye to upper part of rocker, cost about 2c each.



TOOL STEEL FRICTIONLESS JOINT

NOTE—Great care must be used in inserting rope into rope hook. Another form of hook which is easier to manipulate can be obtained. With this the rope is spliced around instead of run through, and no wedge screw is required.

No. 7

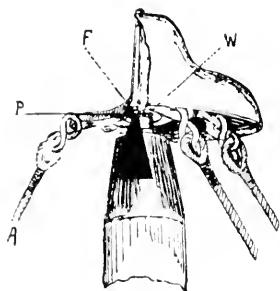
DIRECTIONS FOR MAKING HOME-MADE WAGON SKEIN GIANT STRIDE, AND
HOME-MADE GIANT STRIDE WITH MACHINED HEAD

Fig. 1

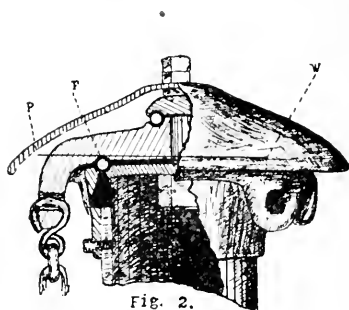


Fig. 2.

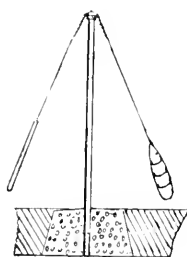
SCALE $\frac{1}{8}$ IN TO 1 FT.

Fig. 3



Fig. 4

FIGURES 1, 2, 3 AND 4—GIANT STRIDES WITH MACHINED HEAD

DIRECTIONS FOR MAKING GIANT STRIDES USING MACHINED HEADS

There are two general styles of giant strides on the market illustrated by Fig. 1 and Fig. 2. Fig. 1 is the style head which has been developed by the machine companies; Fig. 2 illustrates another form of head, the idea of which first came from the Boston playgrounds. It has these advantages over the old style, in that the balls are much larger, giving less friction and the fact that the ball races are much broader than in the old style gives

much less leverage. A glance at the cut will illustrate our meaning; the fulcrum of the lever is located at F, on the balls when power is applied at P by a child hanging onto the rope; the power arm of the lever, or the distance between P and F you will note is much less in Fig. 2 than in Fig. 1, whereas the weight arm, the distance from F to W is much greater in Fig. 2 than in Fig. 1, hence the leverage of the old style giant stride will be much greater than that of the new style; consequently we would expect that the giant stride shown in Fig. 2 would run very much more evenly and more easily, which from experiment proves to be the fact.

GIANT STRIDE POSTS. Giant strides should wherever possible be placed 16' above ground, whereas in many cases they are placed only 14' above ground. Whenever space is available the greater height should be used as the children are much less liable to hit the post and the exercise is more enjoyable.

Posts should be set in the ground 4' in a bed of concrete 2' at the top and 3' at the bottom. The bottom of post should be set on a large building stone as illustrated in Fig. 3, or it should be placed on a small pier made out of concrete. Concrete should be a 5 to 1 mixture.

HANGERS. The hanger used will depend upon the use you wish to make of your giant stride. If you wish to make it most enjoyable to the children, the loop illustrated in Fig. 4 will be the best kind to use. This hangs very low, just above the ground, when hanging directly down. The children put the loop over their heads and half sit and half stand in while they run around, gaining momentum until they sit entirely in the loop and swing off from their feet. With this rope loop there is absolutely no danger of accidents, as there are no hard materials to strike the children.

Another form of hanger, which perhaps gives more and better exercise if the children will take it, is the knotted rope hanger made in every way like the loop hanger, except that the lower end is knotted about every 6" and the children take hold of these knots with their hands while they run around.

The loop hanger should be made as follows: (see Fig. 4) A loose knot (F) should be made in the rope, near enough to the bottom so that the loop when made, will be about 30" long. Through this knot the end of the rope is passed and a knot made in the end (E). Then both knots are pulled tight, and then wet and pulled tighter still. At the upper end of this $\frac{3}{4}$ " Manila rope a rope hook (D) is attached according to the directions given under swings with special castings. Into this hook is attached an S hook (B) and the other end of this S hook is attached to a 3-16" galvanized chain (A) which is about 18" long and continuing upward is attached into the eye of the giant stride as shown in Fig. 2. The completed hanger should be the same length as the height of the pole. The point C of hook D should be hammered down so that the hook cannot be removed from the S hook at any place but point G.

MATERIALS USED.

1 machined giant stride head will cost

For malleable iron,

\$15.00

For cast tool steel

20.00

1 piece black pipe 4" x 20' will cost

\$6.00 to 8.00

6 pieces gal. 3-16" chain, 6c to 10c per foot

1 doz. 5-16" S hooks 10c to 15c each

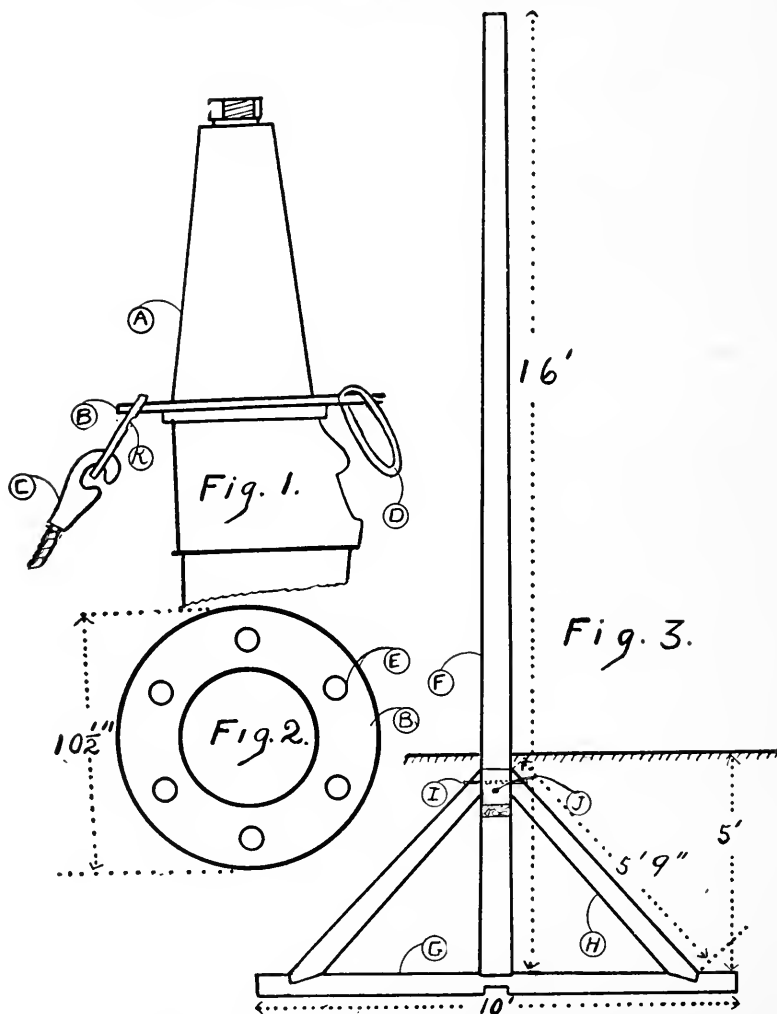
About 120' of $\frac{3}{4}$ " 3 strand Manila rope, at from 3c to 5c per foot

$\frac{1}{2}$ doz. $\frac{3}{4}$ " rope hooks about 15c each

About 1 yd. concrete 5 to 1 mixture,

\$5.00 to 6.00

Labor required to erect, 3 laborers about 3 hours; 1 foreman.



FIGURES 1, 2 AND 3—WAGON SKEIN GIANT STRIDE

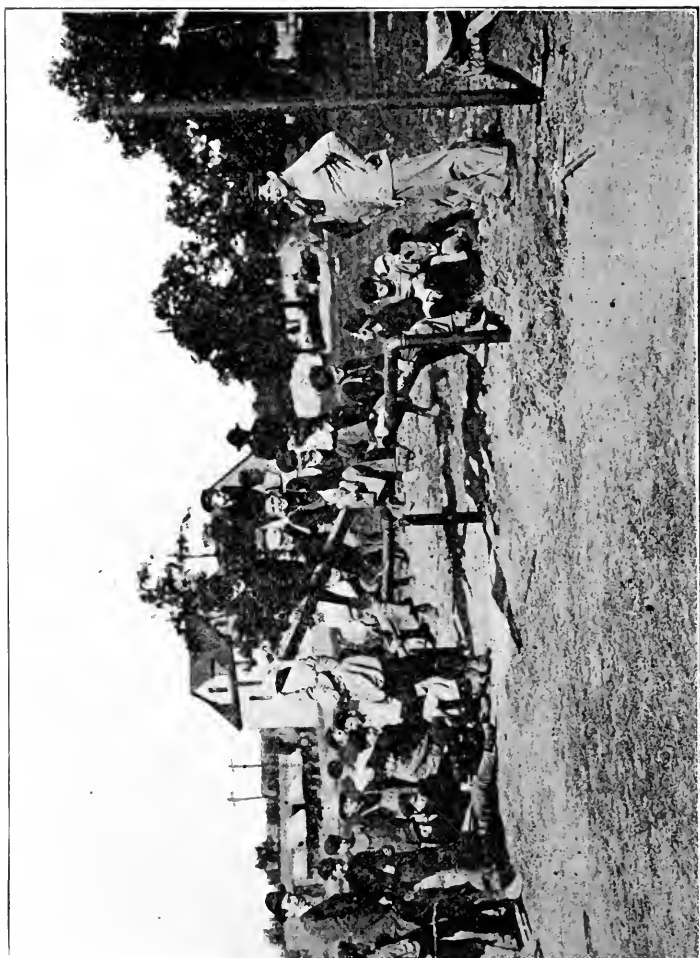
FINISH REQUIRED. All exposed metal parts should be painted with 1 coat black asphaltum varnish. Time required, 1 man about 3 hours. About 1 qt. black asphaltum varnish.

DIRECTIONS FOR MAKING WAGON SKEIN GIANT STRIDE

This is the cheapest form of giant stride and was designed by us for use in St. Paul, when we had a very small appropriation. The head is made from an old wagon skein (Fig. 2 A) around which is fitted an iron ring, $\frac{1}{2}$ " in thickness (Fig. 2 B). This ring has $6\frac{1}{2}$ " holes drilled in it to admit the loop ring (D). From this ring the hangers (Fig. 1 C) are suspended. These hangers may be made as shown in Fig. 4, or they may be made without any chain at the top. If the hook is to be attached directly into the ring (B), the ring should have a dent (K) made in it so that when the hook is turned it can easily be removed from the ring in order to take the hangers off at night.

MATERIALS REQUIRED. One 3" wagon skein, with ring as per plan, 6 rope hooks, about 135' of $\frac{3}{4}$ " Manila rope, 1 post 16' long, 8" x 8", with the corners chamfered so as not to hurt the children. Two pieces 6" x 6" x 10' (Fig. 3 G), 4 pieces 6" x 6" x 5' 9" (Fig. 3 H) fitted as per plan, 1 bolt $\frac{3}{8}$ " x 19" (Fig. 3 I) and 1 bolt $\frac{3}{8}$ " x 23" (Fig. 3 J); these bolts are used to attach the 4 pieces H to post F. Pieces H and F are attached to pieces G by means of spikes. All lumber should be well seasoned southern pine or spruce, dressed 4 sides and finished with 2 coats best outdoor paint, except the part which goes in the ground and that should be coated with tar.

It should be possible to make and erect one of these giant strides for \$15.00 to \$20.00 and it should last several seasons.



HOME-MADE TEETER BOARDS IN ST. PAUL

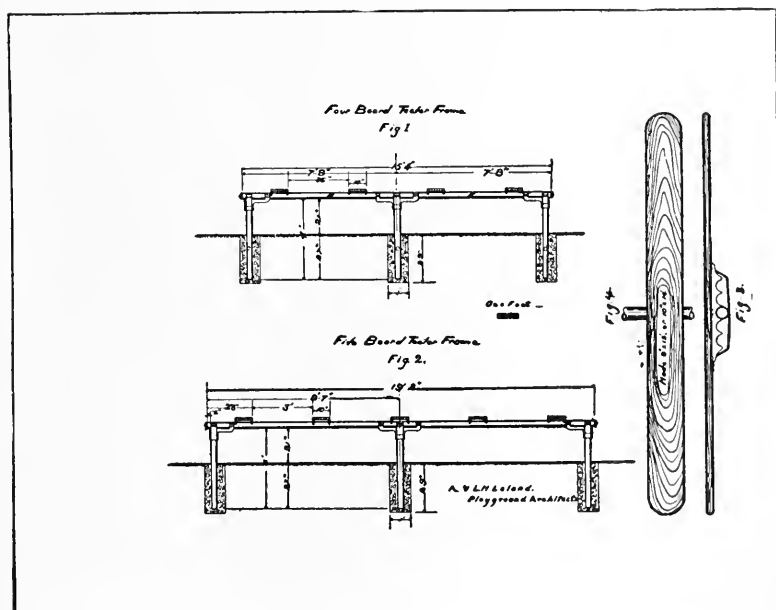
No. 8

DIRECTIONS FOR MAKING AND ERECTING FOUR AND FIVE BOARD TEETER
FRAMES WITH STANDARD FITTINGS AND WITH UNIVERSAL
CLAMP FITTINGS

SPECIFICATIONS

PIPE AND FITTINGS REQUIRED FOR FOUR BOARD TEETER FRAME.

- 1 piece blk. wrought iron pipe, 3" x 15'4", thread 2 ends.
- 3 pieces blk. wrought iron pipe, 3" x 4', thread 1 end (see note).
- 2 3" malleable elbows.
- 1 special clamp tee is needed for the middle of this frame. It will cost about \$1.25.



PIPE AND FITTINGS REQUIRED FOR FIVE BOARD TEETER FRAME.

- 1 piece blk. wrought iron pipe, 3" x 19'2" or 20', thread both ends.
- 3 pieces blk. wrought iron pipe, 3" x 4', thread 1 end.

2 3" malleable ell.

1 special clamp tee is needed for the middle of this frame. It will cost about \$1.25.

5 teeter boards complete.

This frame is designed for the use of small children and for 12' boards, as specified below. If it is desired to use 14' boards, or to have the frame used by larger children, (see note).

NOTE—The above specifications are for teeter frames using 12' boards. 14' boards, however, are more desirable, the angle of the board being less than with the short board making accidents less numerous. If 14' boards are desired, the pipe specifications so noted should be 3" longer, allowing the frame to be placed 3" higher from the ground.

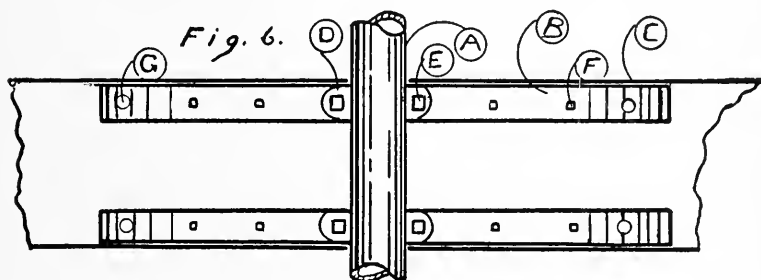
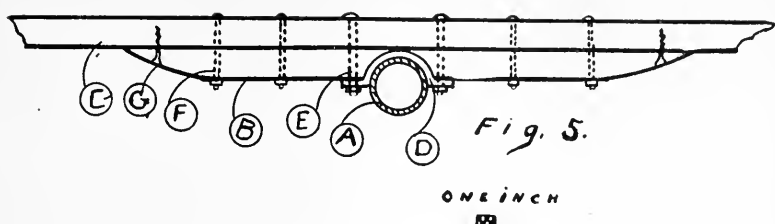
This style frame, using standard fittings, as specified, is the cheapest and best method of construction, and we recommend it in preference to the frame illustrated in cut. If, however, the frame assembled with universal fittings is desired, it will be necessary only to substitute universal ell for the standard ell and add two 3" caps for each teeter frame.

DIRECTIONS FOR MAKING TEETER BOARDS

BOARDS. Boards should be made of oak, Washington spruce, or Southern pine, preferably the first, 1 $\frac{1}{2}$ " x 10" x 12', or 14', dressed 4 sides, milled as per plan appended with the ends cut on a half circle and with all edges rounded slightly and shaded. Boards should be finished by applying 4 or 5 coats of boiled or raw linseed oil (the first gives the better finish), 1 coat shellac, and 1 coat best spar varnish.

ATTACHING BOARDS TO FRAMES. There are two methods of attaching boards to frames; the adjustable method is shown in Fig. 3 and requires 2 special castings, and spring steel adjuster, which goes below the pipe. These castings and adjustments will cost about \$3.00 per board.

Another method, and we think a cheaper and better one, is shown under Figs. 5 and 6. It consists of a small casting (D), which rests on the pipe. This casting rests upon 2 pieces of hard wood (B), which are cut from pieces 2" wide by 2" thick and 18" long; the radius of the circle on which the inner ends of these pieces (B) are cut to fit the casting (D) is 2 $\frac{1}{4}$ ". The 4 pieces (B) are attached to the under side of the board, so that the outside edges of the small pieces are $\frac{1}{2}$ " inside the outside edge of the board. This places the casting in under the board, so that there is no danger of the children pinching their fingers or catching their clothes. The pieces (B) should be smoothed, sanded and finished, as per directions for finishing board. They are attached to board by means of $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " carriage bolts (E), which go through the top of the board, down through the castings, where they are bolted. As illustrated in the drawing F is a $\frac{3}{8}$ " x 4" carriage bolt. G represents 2 $\frac{1}{2}$ " screws, which complete the attachment.



DETAIL OF TEETER BOARD FRAME ATTACHMENT

We have never had any difficulty with this attachment and it has been in use in St. Paul for 5 or 6 years. These castings will cost about 50c each, or you can have them made by the forging class out of a piece of $\frac{3}{8}$ " x 2" mild steel.

In order to lock up the teeter boards at night, we bored $1\frac{1}{4}$ " holes through the boards in the center about 8" in from the ends and run a chain through all the boards, which we laid on top of each other beside the frame, and securely padlocked the chain to the frame. This kept them from working overtime.

ESTIMATES.

The four board teeter frame has cost us, made up by contract, \$25.00 to \$30.00.

The five board teeter frame we have never made up, but think it would cost \$3.00 or \$4.00 more than the other one.
(These estimates include the boards.)

ESTIMATE OF ERECTING FRAME.

Concrete required, about 1-5 yd. 5 to 1 mixture with Portland cement at \$5.00 to \$6.00 per yard.

Labor required, 2 men $\frac{1}{2}$ day to 1 day with good luck.

Holes should be levelled and frame assembled as shown by directions for erecting swings.

No. 9

DIRECTIONS FOR MAKING AND ERECTING BACK YARD EQUIPMENT FOR SMALL CHILDREN

SPECIFICATIONS

This equipment is designed for very small city back yards. It consists of swing frame containing 8 leather seat baby swings, 3 small wood seat swings. At each end of the frame is a small playground slide. Beyond this at one end is a sand box. Awning covering the whole equipment in case there is no shade. At the other side of the swings a four board teeter frame is placed. This leaves not quite half of the ground free for games. Rapidly growing vines should be placed around the fence.

MATERIALS FOR FRAMES

2 pieces wrought iron pipe 3" x 18', thread two ends. 4 pieces wrought iron pipe 3" x 10', thread 1 end. 1 3" blk. mall. ell. 2 pattern XT1 castings. 1 universal ell. 4 pieces channel iron 2" x 3-16" x 18".

Frame for attaching awning. 3 timbers, 3" x 4" x 12'1½". 2 pieces blk. pipe 1¼" x 3'8½", thread 1 end. 2 special clamps for 1¼" pipe.

ERECTING THE FRAMES. Level the holes as directed in Reprint No. 5. Set up the four upright pipes, tamping dirt around the two outside ones and placing the two center pipes with a little bed of concrete, 18" x 18" x 6", set in around the channel irons which are attached to this frame, by means of U shaped loops bolted through the channel iron and around the pipe. This makes it very easy to remove the frames from the ground to set up somewhere else, as it is only necessary to break off the concrete and dig out the pipes.

When the 4 uprights are set, take the 2 top pieces and connect them on the ground with the coupling. Then raise them up into the castings on top of the pipe, i. e. 2 tees and a universal ell. Then thread the end of the pipe into the standard ell at the left hand end. Then clamp the other 3 fittings on.

FRAME FOR AWNING. The frame work of this consists of 3 pieces of 3" x 4", 12½' long, with holes bored near the top to receive a ½" rope on which this awning is hung. These posts are set in the ground to a depth of 2'. The awning over the center of the swings is held up by 2 pieces of blk. pipe 1¼" x 3'8½", end threaded with holes bored at the top to receive ½" rope. The awning is then stretched over this and attached to supports at the sides.

ATTACHING SLIDES TO FRAMES. Slides are attached to frames on one side and to the upright posts on the other.

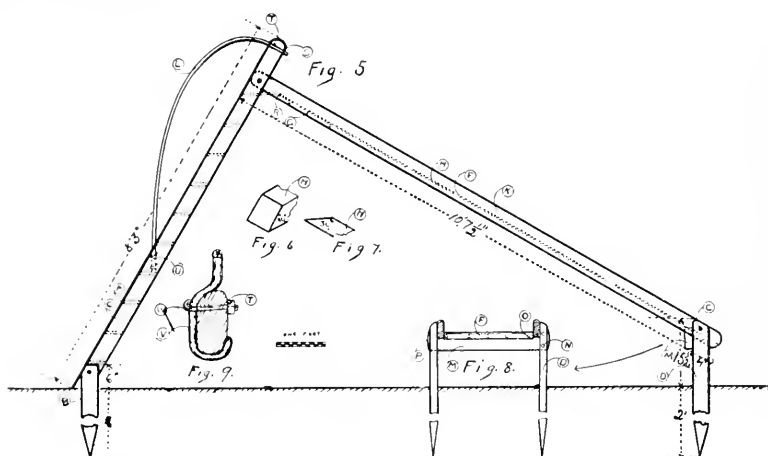
HAMMOCK SWINGS. Hammock swings may be suspended from a joist connecting the two right hand awning supports over one end of the sand box. The other end of the hammocks can be attached to the fence or to a frame work.

DIRECTIONS FOR CONSTRUCTING SLIDES TO BE ATTACHED TO BACK YARD PLAYGROUND EQUIPMENT

Procure from a dealer in sheet steel a piece of 16 gauge x 24" x 120" galvanized sheet steel. At the ends cut out four corners $1\frac{1}{2}$ " square. Bend down the sides to form a channel, so that the width of the steel shall be 21", which is the width of inside of the slide.

F in the different figures represents this steel.

Secure two pieces of wood $1\frac{1}{4}$ " x $3\frac{7}{8}$ " x $10' 7\frac{1}{2}"$. These form the side pieces (K) to the slide.



FIGURES 5, 6, 7, 8 AND 9

SIDE ELEVATION OF SLIDE FOR BACK YARD PLAYGROUND EQUIPMENT

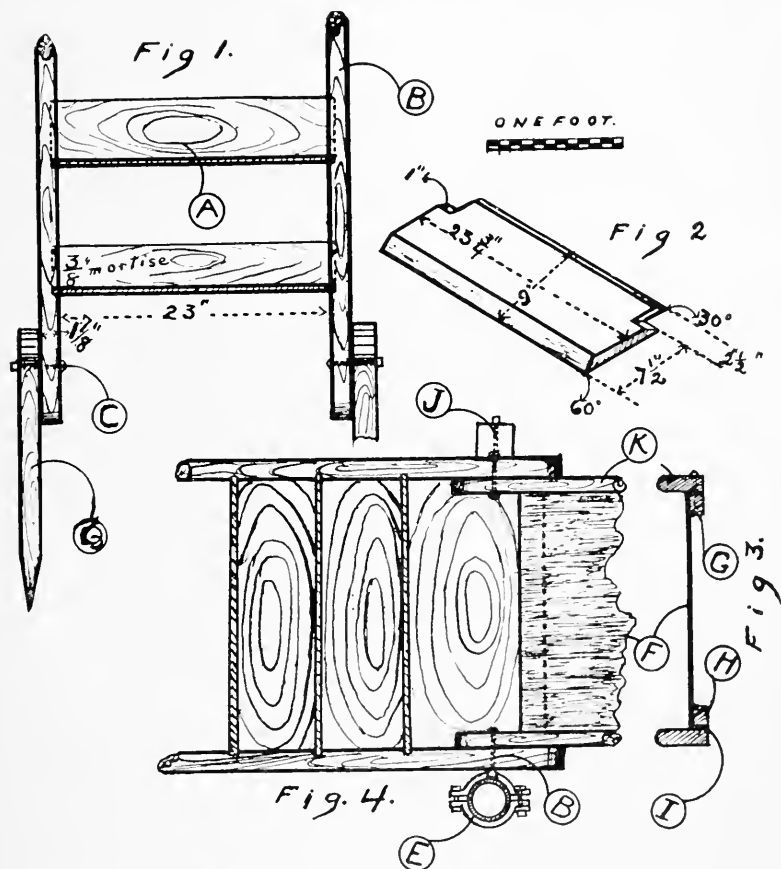
Two pieces $1\frac{1}{2}$ " x $1\frac{1}{2}$ " x 9' 9" hard wood (H) with the upper ends cut off at an angle of 30° are then inserted inside the channels of this steel (I) as shown in Fig. 3 with the side pieces (K) on the outside.

Then a hole is drilled through K and F and I as shown in Fig. 3 and a 3-16" x $3\frac{1}{4}$ " carriage bolt inserted. Then these bolts are placed every 10" throughout the length of the steel.

A $\frac{3}{8}$ " x 24" carriage bolt (Fig. 5 R) is then run through the side (K) directly in under the steel, which is then hammered over it and around it. At the lower end of the slide, the steel is hammered down into a groove

cut in the face of M (Fig. 8) and then screwed into place by No. 8 x 1" round head wood screws. M is attached to the stakes (D) by $4\frac{1}{2}$ " x 4" carriage bolts (see Fig. 8 N).

If desired, the bottom of the sheet may be pounded around a $\frac{1}{2}$ " x 24" steel rod, threaded on each end and with two nuts on each end, which are placed, one inside of side K and the other outside of side K. This bolt will serve to keep the steel in place and will also keep the slide from sagging in the middle, but perhaps the simplest way is to use the first method.



FIGURES 1, 2, 3 AND 4
DETAIL OF SLIDES FOR BACKYARD EQUIPMENT

SLIDE STEPS. Procure two pieces of wood $1\frac{1}{2}$ " x $3\frac{3}{4}$ " x 8' 3". Cut the bottom piece off on an angle of 60°, and 7" up from the bottom, on the front side make a mark for the bottom of the first step. 8" above this, on the same side, marks the bottom of the second step and so on up.

The steps are $\frac{3}{4}$ " x $3\frac{1}{2}$ " x $23\frac{3}{4}$ " and fit into mortises cut in the sides $\frac{3}{8}$ " deep (see Fig. 1 and Fig. 2). They are all cut at an angle of 60° . Great care should be taken to thoroughly sand and smooth them so that the children will not hurt themselves.

The top step is shown in Fig. 2. It fits directly over the steel where wound around rod (R).

The connection between the slide and the ladder is shown in Fig. 4.

A $\frac{1}{2}$ " x 8" carriage bolt extends through the sides of the two and through the upright post, which supports the awning, previously spoken about under Back Yard Equipment. The other side, which is next to the iron pipe post of the swing, is connected by a special casting, through which a $\frac{1}{2}$ " x 5" bolt end is driven and headed while hot into a hole countersunk in the inside of the casting (E). This casting with the bolt may be secured for about \$1.25, or the casting may be purchased and the bolt fixed up by the manual training class or a fitting may be forged.

The bottom of the slide is secured by a stake (Q) which is driven in the ground to a depth of 2". This stake is $1\frac{7}{8}$ " x $3\frac{7}{8}$ " x 2' 6", and the steps are fastened to it by $\frac{3}{8}$ " x 4" carriage bolts (C).

HAND RAILS. The hand rails (L) are made of $\frac{5}{8}$ " round iron about 9' long. At the top of the slide (S) it is bent so as to fit around the slide as shown in Fig. 9, the bend of the metal (V) being on the inside of the slide.

A 5-16" bolt (T) which has the end (W) bent around the guard rail (L) is put through the side (C) at (S), as illustrated in Fig. 9.

The lower end of the guard rail rests upon the third step from the bottom on the inside of the frame, and is held in place by two bolts, such as hold the upper end.

FINISH. Wood used should be oak, Southern pine or maple, finished with one coat oil, one coat shellac, one coat spar varnish.

ESTIMATES. This slide used to cost us \$12.00 to \$15.00 made up in quantities under contract. The necessary materials ought not to cost more than \$5.00 or \$6.00.

The slide when attached to the frame acts as a first class brace, making it absolutely immovable.

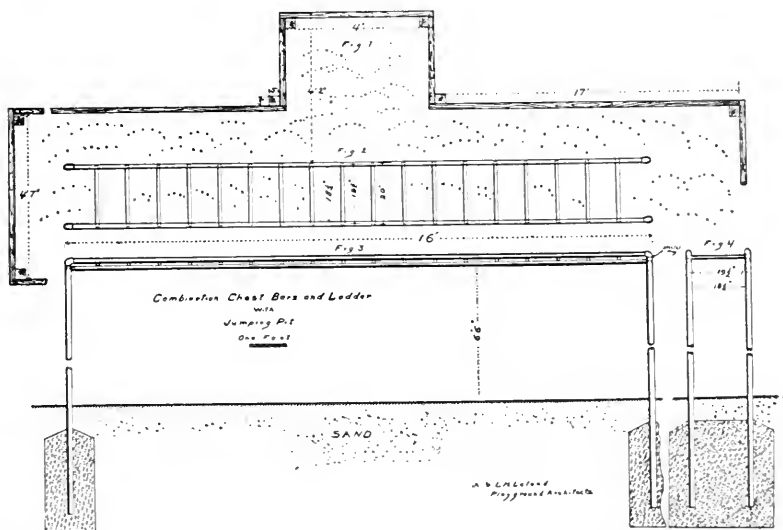
A higher slide can be constructed in the same manner.

NOTE—For details of Teeters and Sand Boxes see under Reprints Nos. 3 and 8.

No. 10

DIRECTIONS FOR MAKING COMBINATION STEEL LADDER AND CHEST BARS WITH JUMPING PIT, STEEL INCLINE LADDER, AND SLIDING POLES

This combination is an ideal one for school-yard playgrounds or for any place where the play space is very limited. We all of us, when we were children, dearly loved to jump off a sand bank and this equipment brings the sand bank home to the city child with the added pleasure and exercise to be gained from use of the horizontal ladder and chest bars.



COMBINATION LADDER AND CHEST BARS WITH JUMPING PIT

SPECIFICATIONS

LADDER AND CHEST BARS.

- 2 pieces galvanized wrought iron pipe, $1\frac{1}{2}$ " x 16', threaded both ends.
- 2 pieces galvanized wrought iron pipe, $1\frac{1}{4}$ " x 16', no threads.
- 18 pieces galvanized wrought iron pipe, 1" x 20' (rungs).
- 4 pieces galvanized wrought iron pipe, 2" x 9' 6", thread 2 ends (uprights).
- 4 black flanges 2" x 5".
- 4 gal. mall. reducing elbows $2\frac{1}{2}$ " x $1\frac{1}{2}$ ".

- 4 special plugs, threaded into $1\frac{1}{4}$ " pipe, tapped for $\frac{3}{8}$ " machine screws.
- 4 $\frac{3}{8}$ " x 3" machine screws, C. H.
- 36 B. H. rivets $\frac{3}{8}$ " x $3\frac{3}{4}$ ", or 36 $\frac{3}{8}$ " x $3\frac{3}{4}$ " R. H. stove bolts.

JUMPING PIT.

- 4 pieces Washington fir or Southern pine dressed 3 sides, 2" x 12" x 17'.
 - 4 pieces Washington fir or Southern pine dressed 3 sides, 2" x 12" x 2'5".
 - 2 pieces Washington fir or Southern pine dressed 3 sides, 2" x 12" x 4'.
 - 2 pieces Washington fir or Southern pine dressed 3 sides, 2" x 12" x 4'7".
 - 12 pieces Washington fir or Southern pine dressed 4 sides, 3" x 3" x 2'6".
- Nails.

CONCRETE REQUIRED.

Two 1' 4" x 2' 9" x 2' 9" piers of 5 to 1 mixture of Portland cement.

CONSTRUCTION. This ladder is made similar to the incline ladder except that the only special casting required is a very small one, which holds the lower pipe to the 2" upright. This plug is screwed into the end of the $1\frac{1}{4}$ " pipe and is tapped to hold a $\frac{3}{8}$ " x 3" countersunk head machine screw, which goes through the 2" pipe upright and into the center of the plug, holding the ladder firm. The spacing of the rungs is the same as in the other ladder, except that the two end rungs are placed 12" in from the ends. The top pipes of the ladder are threaded into $\frac{1}{2}$ " x 2" reducing ell.

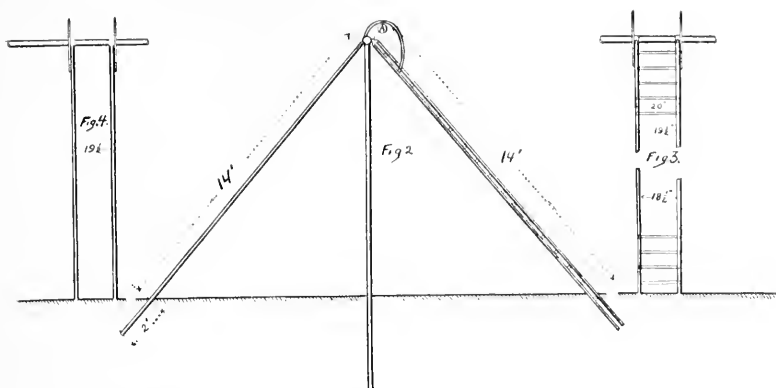
ERECTION. Level the holes as directed for swing frames. Assemble the ladder, and place in the holes. Brace in a manner similar to that used in bracing the swing frames, and then set in concrete.

ESTIMATE. Materials and labor for making up these ladders will cost \$1.25 to \$1.50 per foot including special castings, but not including the price of the special tool necessary. This special tool will cost \$6.00 to \$8.00 to have made, but will last indefinitely.

Different tools are required for the riveted ladder and for the bolted ladder.

SPECIAL FITTINGS. The special fittings required for attaching ladders to frames will cost about \$3.00 per set. The special castings used for attaching horizontal and chest bar ladder to uprights will cost about \$1.00 per set.

These steel ladders are without question the strongest ladders which have ever been made, and much superior in strength and durability to the pressed steel ladders on the market. It looks to us absolutely impossible to break or wear them out.



STEEL INCLINE LADDER AND SLIDING POLES

SPECIFICATIONS

All pipe and fittings galvanized unless otherwise specified. All fittings to be malleable unless otherwise specified.

LADDER.

- 2 pieces pipe $1\frac{1}{2}$ " x 16', one end threaded.
- 2 pieces pipe $1\frac{1}{4}$ " x 16', one end threaded.
- 15 pieces pipe 1" x 20".
- 4 E1 castings.

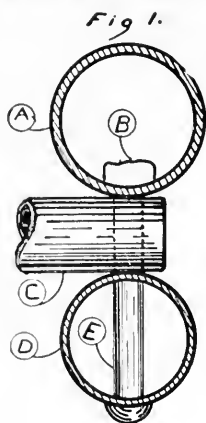
4 E castings.

ARCH HANDLES.

- 2 pieces pipe $\frac{3}{4}$ " x 49", thread 1 end.
- 2 1" x $\frac{3}{4}$ " reducing elbows.
- 4 hex. head and nut bolts, $\frac{1}{2}$ " x $1\frac{3}{4}$ ".
- 4 hex. head and nut bolts, $\frac{1}{2}$ " x $2\frac{3}{4}$ ".
- 34 B. H. rivets, $\frac{3}{8}$ " x $3\frac{3}{4}$ ", or 34 $\frac{3}{8}$ " x $3\frac{3}{4}$ " R. H. stove bolts.
- 2 cast flanges, black, $1\frac{1}{4}$ " x $3\frac{1}{2}$ ".
- 2 cast black flanges, $1\frac{1}{2}$ " x $4\frac{1}{2}$ ".

CONSTRUCTION. The construction of this ladder is shown in Fig. 1; a hole is drilled through the $1\frac{1}{2}$ " pipe (A), through the 1" pipe (C), $\frac{1}{4}$ " in from the end, and through the $1\frac{1}{4}$ " pipe (D). The first holes are commenced 8" down from the top end of the ladder, and from there on the holes are placed 10" apart, center to center. After the holes are all drilled, they are all reamed out so as to enable a $\frac{3}{8}$ " x $3\frac{3}{4}$ " stove bolt (E) to go through and screw into the nut (B) which is placed in the inside of the $1\frac{1}{4}$ " pipe (A) by means of a special tool. Another method of attaching the rungs, is to use $\frac{3}{8}$ " x $3\frac{3}{4}$ " B. H. rivets and head them into the inside of the pipe while hot. This, however, is very difficult, as the rivet has a tendency to buckle

when hot. This can be obviated, however, by wrapping the upper end of the rivet in asbestos to keep it from heating. The ladder rungs are 20" long, and the ends must be ground off perfectly smooth. The $\frac{3}{8}$ " holes in the ends of the rung are 19 $\frac{1}{2}$ " from center to center.



SPECIAL CASTINGS. Special castings, which fit into the ends of the two pipes are required to attach ladder to frame (Fig. 2 A, page 237). These castings are held in place by two $\frac{3}{8}$ " x $\frac{3}{4}$ " round head machine screws, which are tapped through the pipe and through the casting on the inner side in such a manner as not to be in danger of catching the children's clothes. The arch handle illustrated is unnecessary when this ladder is used with the combination swing and gymnasium frame, for which it is designed.

SLIDING POLES

No wooden sliding pole should ever be used. We know of a great many accidents caused by slivers. In many places, where wooden poles are used, it is necessary to keep a man all the time dressing them down.

Sliding poles should always be placed *opposite* some means of gaining access to them. We cannot see any use in sliding poles which end at the top of frame.

CONSTRUCTION. 1 $\frac{1}{2}$ " selected, smooth, galvanized pipe is the best material for sliding poles which we know of. Fig. 2 illustrates a pair of sliding poles made this way. They should be set in a small amount of concrete at the bottom and should have flanges at the end.

ATTACHMENT TO FRAME. Sliding poles are attached to the frame in the following manner. Take two 3" x 3" x 1 $\frac{1}{2}$ " galvanized tees, have them reamed out and in one side of the 3" run drill a $\frac{1}{2}$ " hole. These fittings must be slid onto the pipe of the frame and then the sliding poles threaded into them. They should be placed inside of the fittings which hold the ladder. After the concrete at the bottom is set, take a drill, any size up to $\frac{1}{2}$ ", and drill a hole part way into the 3" pipe of the frame. Then fill this with hot lead, and smooth off. The lead will keep the fittings from slipping. This fitting, however, has one defect in that the lip holding the 1 $\frac{1}{2}$ " pipe is not long enough; it also is quite expensive machining the fitting out. We plan to design a fitting which will overcome these difficulties, and cheapen the cost of construction.

SPECIFICATIONS

- 2 pieces pipe 1 $\frac{1}{2}$ " x 18', thread 2 ends.
- 1 piece pipe 1" x 21 $\frac{3}{4}$ ", thread both ends (2nd rung from top).
- 2 3" x 3" x 1 $\frac{1}{2}$ " reducing tees, to be reamed out to slide over 3" pipe.

ESTIMATES.

The pipe for these sliding poles will cost 14c to 15c per foot.

The fittings about \$1.15 each and machine work 75c or \$1.00.

No. 11

DIRECTIONS FOR MAKING AND ERECTING COMBINATION SWING AND GYMNASIUM FRAME, AND FOR MAKING TEETER LADDER

This play equipment has a frame made of 3" steel pipe held together with Universal Frame Connections, making the strongest frame which can be made. The ladders and sliding poles serve as braces giving absolute rigidity.

If at any time it is desired to enlarge this frame, it can easily be made into a square gymnasium by duplicating for the other end and connecting the two ends with steel pipes. The climbing pole will be removed and a set of traveling rings inserted.

The upright pipe at the top of the ladder and sliding poles acts as a handle for the children to grasp when going from the ladder to the poles. Upon this frame are attached the following pieces of apparatus:

- | | |
|---|--------------------------------|
| 6 11' swings, | 1 all steel incline ladder, |
| 1 pr. trick rings, | 2 pr. all steel incline poles, |
| 1 steel and cable trapeze, | 1 steel climbing pole, |
| 1 rope ladder made of steel cable with steel rungs. | |

From the pipe above the incline ladder attachment can be secured for the Slide for Life, which is designed to extend from this place to an attachment upon some other piece of apparatus.

PIPE REQUIRED FOR FRAME. The following pipe is required for frame:

- 2 pieces blk. pipe 3" x 15', with or without threads. (A & D.)
- 2 pieces blk. pipe 3" x 15', thread 1 end. (E & G.)
- 1 piece blk. pipe 3" x 3' 6", thread 1 end. (Short end of F.)
- 1 piece blk. pipe 3" x 20', thread 1 end. (F.)
- 2 pieces blk. pipe 3" x 19', with or without threads.
- 2 pieces galvanized pipe 1 $\frac{1}{4}$ " x 3' 6 $\frac{1}{2}$ ", thread 2 ends.

FITTINGS REQUIRED.

- 4 universal tees. (H, I, J & K.)
- 2 universal ells. (L & H.)
- 4 3" x 1 $\frac{1}{4}$ " special bolted frame clamps, attachment for securing ladders and apparatus to frame listed under directions for making the same.

DIRECTIONS FOR ERECTING THE FRAME

Level the holes as under directions for erecting swing frames (Reprint No. 5). Place fittings (H), (K), (J) & (L) as indicated in plan, page 139.

COMBINATION SWINGS

AND

GYMNASIUM

ONE FOOT

SCALE

Fig 2

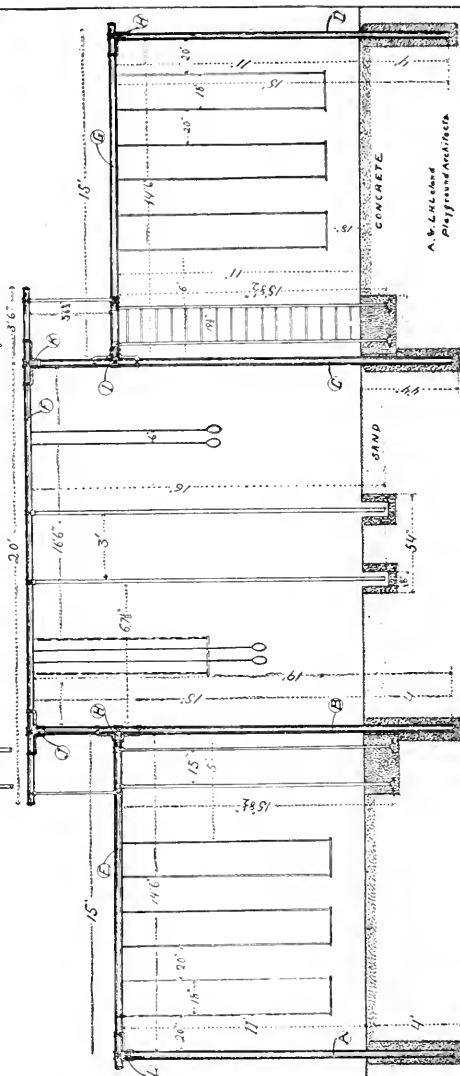
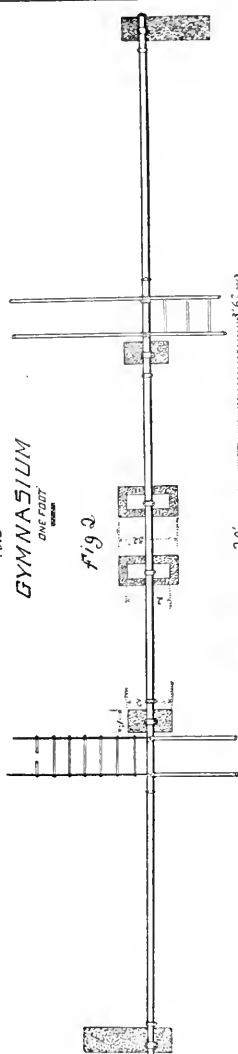


Fig 1

A. B. L. Leland
Playground Architect

Set in concrete as previously directed, then place pipe (G) with the right hand end resting in the hollow of casting (K). Attach to the other end on the ground steel ladder and steel sliding poles with fitting (I) attached to the pipe just outside them. Then raise the ladder and the sliding poles up into the position where they should go (or follow the same method as previously indicated in Reprint No. 5), and afterwards attach the ladders and sliding poles. Pipe F is in 2 pieces, the 2 pieces being joined in the center of fitting K. The wide clamp and the teeth in the center, with the toothed arms at the side make this possible.

Fig. 2 shows a ground plan of this frame set up. Your attention is called to the manner of placing the concrete for the 2 upside uprights of the frame. This gives the frame a very large base and when the ladders and sliding poles are set in concrete, it is absolutely immovable.

Special attention is called to the method of securing the bottoms of the climbing poles in order to keep them from swinging around and hitting other pieces of apparatus. They are set in little frames of concrete (or wood may be used). This should be large enough to give a little play both ways but not enough to allow the poles to leave the box.

APPARATUS. The construction of swings, steel incline ladders and sliding poles are all included in articles under those headings.

THE STEEL AND WIRE CABLE LADDER is made as follows:

Pieces of galvanized pipe 1" x 20" are cut and smoothed. $\frac{1}{32}$ " holes are drilled $\frac{1}{2}$ " in from the end. Then fill the ends of the pipe with paper and run through the holes pieces of $\frac{1}{2}$ " steel cable, which form the sides. Space about 12" apart, open the strands of the wire with an awl inside the ends of the 1" pipe and insert therein a wire nail or a screw. Then saturate the inside of the pipe, wire and screw with soldering acid and fill up the hole with a mixture of 1 part solder and 1 part lead. This makes the most durable, flexible ladder that I have ever seen.

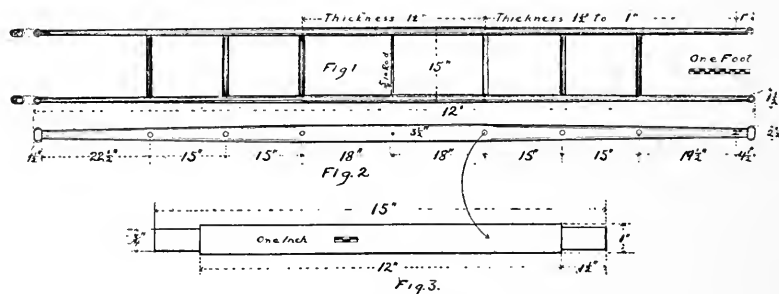
Special fittings for attaching to the ground and to the frame are required.

TRAPEZE. The best home made trapeze is made as follows: Secure a very smooth piece of 1" galvanized pipe, 28" long, thread at both ends and screw on galvanized street ells. File off the threads on the outside, put a $\frac{1}{2}$ " flexible steel cable through the fittings and through the pipe, leaving the ends long enough to give sufficient length for fastening above. Fill the pipe with melted lead and solder combined, after having saturated the inside and the cable with soldering acid. This trapeze should be attached to the frame by means of frictionless joints such as were used in the swings. Crosby wire rope clips should be used to hold the ends of the cable secure.

CLIMBING POLES. The climbing poles are made of selected smooth pieces of $1\frac{1}{2}$ " galvanized pipe, threaded at the top and attached to the frame

by a special casting. These climbing poles will last as long as any in the market.

TRICK RINGS. Trick rings should be made of malleable, galvanized iron, which can be purchased. Leather and rubber covering are unnecessary. The best material for attaching these to the frames is a combination hemp and steel tarred flexible cable, which, however, is very, very expensive, costing 4 or 5 times as much as $\frac{3}{4}$ " Manila rope. If this steel cable is used, it is necessary to splice a loop at the bottom and to attach at the top to the special frame fittings by means of splices or by the use of a wire rope clip. At the bottom, in order to make the rings adjustable as to height, a leather strap about $\frac{1}{4}$ " x $1\frac{1}{4}$ " x 6' with a heavy harness buckle should be used for each ring. These straps should be thoroughly waterproofed by soaking in a solution of gasoline and rubber and other materials, which patented waterproofing fluid is on the market. In case you cannot afford the expensive indestructible rope, use $\frac{3}{4}$ " Manila rope tarred, which should be attached at the upper end by means of rope hook, in the manner specified under swing construction; at the lower end another hook is attached and the opening pounded together; below this the strap spoken of before is attached connecting with the ring.



TEETER LADDER

DIRECTIONS FOR MAKING TEETER LADDER

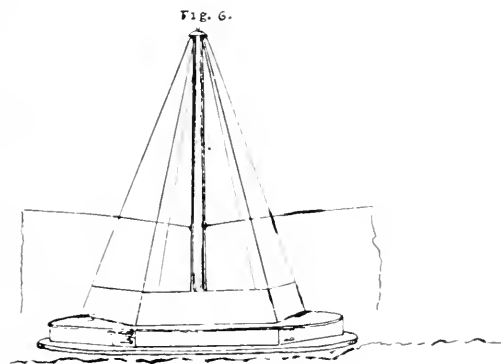
Fig. 1 shows plan of the ladder.

Fig. 2 shows side elevation.

Fig. 3 shows detail of the ladder rung.

These dimensions are suitable for a ladder with sides made up of white oak or white ash, and rungs of oak, ash or hickory. New England spruce with white ash rungs make a very light, strong ladder and if this wood for the sides is used, the sides should be slightly thicker. Southern pine may also be used. All materials should be kiln dried, rounded and smoothed on the edges and finished with 3 coats of oil, 1 coat of shellac, 1 coat spar varnish. The detail of attachment to the frame is shown in Reprint No. 13.

No. 12

DIRECTIONS FOR MAKING AND ERECTING SCHOOL YARD MERRY-GO-ROUND
AND GIANT STRIDE COMBINED, WITH FLIPPING BOARD ATTACHMENT

SCHOOL YARD MERRY-GO-ROUND AND GIANT STRIDE COMBINED

The merry-go-round gives a maximum development of pleasure to the greatest number of children per square foot of space occupied of any piece of apparatus which has ever been made. The cost, however, of these has made them almost prohibitive for general use. All of the machines of which we know have the projecting arms, which serve as application for motive power, not high enough above the ground to prevent them from striking the children, if they get in the way. The style indicated here overcomes both of these objections, as it can be made by the advanced manual training class at a cost of \$40.00 to \$60.00 for materials. The motive power is applied by means of ropes, suspended from arms, which extend out from the supporting rods.

METHOD OF CONSTRUCTION. Fig. 1 shows elevation. Fig. 4 shows ground plan. Fig. 2 shows method of welding $\frac{5}{8}$ " iron arm to vertical and incline rods, which support the frame work. Fig. 5 shows method of attachment of $1\frac{1}{4}$ " steel tubing, which must be used for the arms when they are to be used for giant stride purposes. These arms are held by a piece welded to the incline rods and are attached by nuts placed on the arm on both sides of the vertical rods.

The basis of construction consists of a tool steel giant stride head on top of the pipe and a thrust bearing, using $\frac{1}{2}$ " balls towards the lower end of the pipe. (See Fig. 1.) The wooden frame work is suspended from

Fig. 4

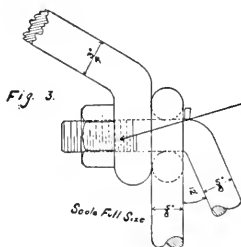
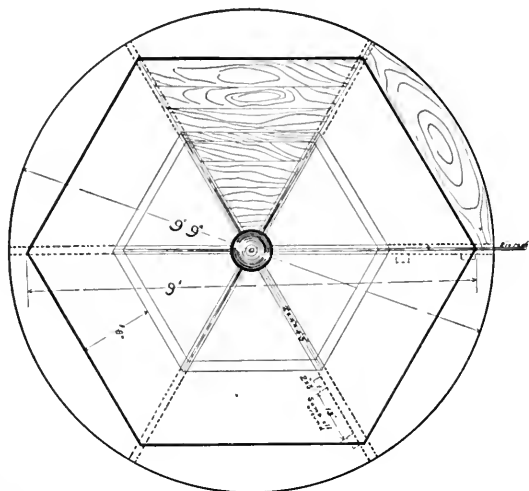


Fig. 1

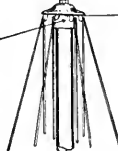


Fig. 2

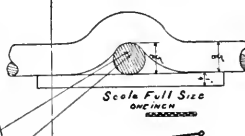
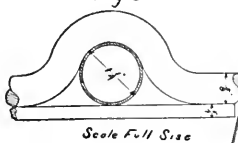


Fig. 5



Specifications

- Six 2 1/4" x 4 1/2" beams; Six 2 1/2" x 2 1/2" pieces, two 1/2" x 2 1/2" x 12" pieces;
- Six pieces of 1 1/2" x 1 1/2" lumber; Six pieces of 1 1/2" x 1 1/2" x 12" lumber; Six pieces of 1 1/2" x 1 1/2" x 12" lumber;
- One piece of round iron 1/2" x 6" or 1 1/2" steel tubing;
- Six pieces of iron rod 1/2" x 12" x 12"
- One end of rod to be turned on eye, whole inside of eye to be 5" diameter and threaded with U.S.S. threads 2" from end
- Six pieces of iron rod 1/2" x 12" x 12"
- One end threaded U.S.S. thread 1/2" from end, 2 1/2" from face and 6" end rod through angle of 78°; Other end threaded 1 1/2" from end U.S.S. thread.
- Twelve special castings for above rods:
- One 4" iron pipe 12" long;
- One "Giant Stride" steel casting;
- One schoolyard merry-go-round lower;
- Thirty 8" hex nuts;
- Twenty-four washers;
- Six 1/2" x 1 1/2" carriage bolts with nuts and washers, 1 1/2"

Schoolyard Merry Go-Round
and
Giant Stride Combined
Patent applied for
ONE FOOT.

A. E. L. Leland.
Playground Architects.

SCHOOL YARD MERRY-GO-ROUND

the top bearing by means of six $\frac{5}{8}$ " vertical rods, which run through the ends of the six 2" x 4" x 4'3" timbers, which form the basis for the frame work, and which are fitted into slots cut in the casting; $\frac{5}{8}$ " nuts threaded on the rods at the top of the timber, and similar nuts screwed on below the casting keep the center from going down or up. The detail of this attachment to the eye of the giant stride is illustrated in Fig. 3, an eye being welded at the top of the vertical rod. Through this eye as illustrated in Fig. 3, is bent the threaded end of the $\frac{5}{8}$ " incline rod, which holds the outer part of the frame. This rod runs down through the 2" x 4" and through a small special casting at the bottom, where it is held in place by a nut.

The step is held on by the frame work illustrated in Fig. 1, which is made by 2" x 3"s bolted at every end by two $\frac{1}{4}$ " x 5" carriage bolts with nuts and washers.

The step itself is made from solid pieces of lumber 1 $\frac{1}{2}$ " x 12" x 5' milled, and then screwed down or nailed to the bottom piece of timber. The space above the step between it and the seat should be sheathed up, or a wire screen can be made similar to the back rest for seat which will be described later.

The seat is made of 1" stock and is nailed to the tops of the 2 x 4 frame.

The back rest may be dispensed with. If it is desired to make it, it should be done as follows:

Bore 2 lines of $\frac{1}{8}$ " holes 2" apart through the seat board between each of the incline rods. Sets of holes should be 4" apart. 1' up from the seat board, attach a piece of No. 9 galvanized steel wire; run this around spirally about 6 times, until the whole space from the board 1' up is covered with wires about 2" apart. Each of these wires, where they cross the incline rods, should be wired to them by means of short pieces of No. 16 galvanized wire. Care should be taken, when wiring these, to have no sharp ends exposed to catch the children's clothes. After these wires are all placed, take No. 12 galvanized wire, push up through the hole bored through the seat and interweave alternately with a horizontal wire to the top wire, around which it should be twisted and then interwoven and twisted down, alternating on the other side of each horizontal wire and back down through the other hole, where the two ends are twisted together. These cross wires should continue on around filling up all the holes.

This back rest is not, however, absolutely necessary, but serves as a convenient place to stow babies away in. If the screen is to be made, it must be woven on before boarding up the space between the step and the seat.

THE MOTIVE POWER ATTACHMENT. One or two $\frac{5}{8}$ " iron rods with an eye at the end, as indicated in Fig. 1, should have a $\frac{1}{4}$ " rope attached to it, to hang down for the children to take hold of. Running from the eye of this rod to the top of the attachment of the vertical and incline rod at the giant stride eye, should be twisted a No. 9 galvanized steel wire, which will keep the rod from bending down. In order to keep it from twisting side-

ways, a No. 9 wire should be attached to the point of intersection of the arm and the incline rod and then be twisted around each of the other incline rods and finally re-attached to the first point of attachment. Then attach a No. 9 wire to the eye of the arm, and run it from this eye horizontally to each of the incline rods immediately adjoining. If this does not prove sufficient bracing wires may be crossed in addition. These wires are not shown in drawing.

GIANT STRIDE ATTACHMENT. In case it is wished to use these arms for giant stride purposes, use instead of the $\frac{5}{8}$ " iron rod, pieces of $\frac{1}{4}$ " x $1\frac{1}{4}$ " steel tubing, which will be attached as shown in Fig. 5. The end, where attached to the vertical rod, should have a 1" pipe thread cut on it and a 1" lock nut attached on either side of the vertical rod. A 1" thread should be cut on the other end and a 1" malleable cap screwed on. This cap should be made as follows: Drill $\frac{1}{2}$ " hole through the center, make an eye bolt out of $\frac{1}{2}$ " iron with an eye 1" in diameter and with a shank about $1\frac{1}{2}$ " long, with a $\frac{1}{2}$ " thread cut the entire length of it. Put a $\frac{1}{2}$ " nut as far on the shank as possible, insert the shank in the hole drilled in the $\frac{1}{2}$ " cap and then put the other nut on. (Note—When making the eye bolt make a dent on one side sufficiently deep to admit the point of a rope hook.)

For a hanger to attach in this eye, insert $\frac{3}{4}$ " rope into rope hook and cut off pieces of rope long enough to leave room for a knot about 3' or 4' above the ground. There should not be more than 3 of these giant stride hangers upon the machine. They should be wired on as indicated for the iron arm and in addition a No. 9 wire should be twisted into each eye connecting the 3 ends directly.

FLIPPING MERRY-GO-ROUND

The most valuable use for a merry-go-round is for the children to jump on and off while it is in motion. ("Flipping," they call it.) This prevents them from becoming dizzy and gives them more exercise. In order to make this piece into a flipping merry-go-round saw off the foot board or never put it on.

SPECIFICATIONS

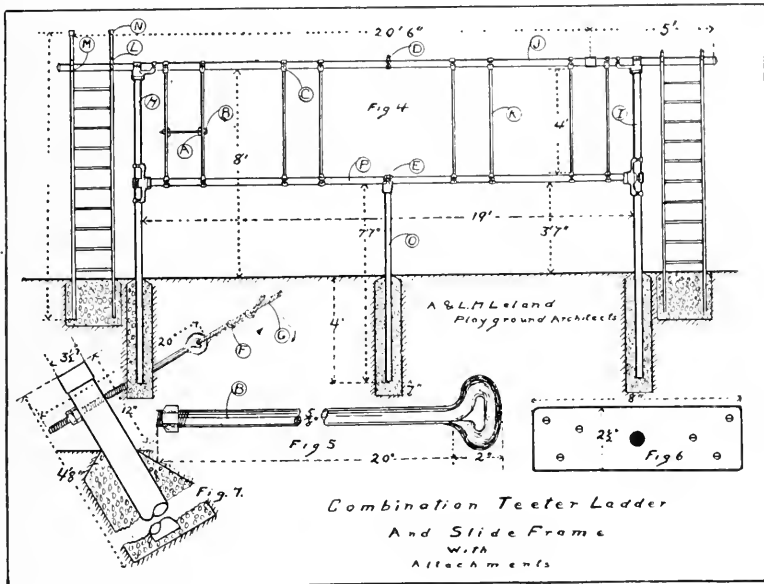
The specifications will be seen on the cut.

ESTIMATE.

Top bearing of tool steel,	\$20.00
Bottom bearing with $\frac{1}{2}$ " steel balls,	15.00
Special castings for bottom of incline rods,	2.00
Nos. 9, 16 and 12 gal. wire.	
One piece concrete 5' x 22" square, 5 to 1 mixture of Portland cement.	

No. 13

DIRECTIONS FOR MAKING AND ERECTING COMBINATION TEETER LADDER
AND SLIDE FRAME, ADJUSTMENT ATTACHMENT FOR BOTTOM OF "SLIDE
FOR LIFE" CABLE



SPECIFICATIONS FOR FRAMES

PIPE REQUIRED.

- 1 piece blk. pipe 3" x 19', with or without threads.
- 1 piece blk. pipe 3" x 20' 6", thread 2 ends.
- 1 piece blk. pipe 3" x 5', thread 2 ends.
- 2 pieces blk. pipe 3" x 12', with or without threads.
- 1 piece blk. pipe 3" x 7' 7", with or without threads.

PIPE FOR TEETER LADDER ATTACHMENTS.

- 8 pieces blk. or gal. pipe 1 1/4" x 4', thread 2 ends. 11-16" holes to be drilled throughout the whole length each 6" apart center to center.

FITTERS REQUIRED.

2 Universal Tees.

2 Universal Ells.

1 XTL.

2 3" caps.

1 3" coupling.

Erect as directed in Reprint No. 5.

ROD FOR ATTACHING TEETER LADDER TO FRAMES. Take a piece of $\frac{5}{8}$ " round iron rod about 28" long and bend as shown in Fig. 5. Cut a thread on the other end. The plate shown in Fig. 6, which is made of a piece of 3-16" steel, is screwed to the side of teeter ladder (shown in Reprint No. 11). The rod B is inserted through this hole in Fig. 6, through the holes in the upright pipe (K) and through the sides of the teeter ladder (A) and then the nuts screwed on as shown in Fig. 4.

SLIDE FOR LIFE ADJUSTMENT

The "Slide for Life" described and illustrated in Reprint No. 14 is attached in the following manner to the teeter ladder frame. The cable (G) runs through the casting D, which runs down to the dead man, shown in Fig. 7. This dead man has a hole drilled through it, for a $\frac{3}{4}$ " x 20" eye bolt. The dead man is set in concrete. Cable G runs through this eye bolt and is tightened by means of a one ton chain hoist and then kept in place by 4 or 5 Crosby wire rope clips (F). It is then further tightened by means of the lock nuts shown in Fig. 7.

DIRECTIONS FOR MAKING ALL SEASONS SLIDE

In the main this slide is made like that described under Reprint No. 9, with the exception, however, that it is considerably higher and is made to stand up alone. It can be made like the Back Yard Slide or put on top of the frame in the same way that the ladders are placed in Reprint No. 14, in which case the side of the steps will be attached to the top pipe in the same manner as directed for the attachment of teeter boards to frame (see Reprint No. 8) with the exception that smaller bolts will be used and twice the number of castings will be required.

The sides of the slide (E) require pieces of kiln dried spruce or Southern pine, 2" x 4" x 16'. The sides (G) require pieces of kiln dried spruce or Southern pine 2" x 4" x 10'.

The steel is attached to the slide at both top and bottom in a manner similar to that directed for the attachment of the top and of the steel under Reprint No. 9. 2 pieces of steel 8' long will be required.

The guard rail (B) may need another attachment in the shape of a vertical rod to run from its center to the side of the slide. The whole guard rail should be made of $\frac{3}{4}$ " iron, as directed under Reprint No. 9.

The upright (F) in Fig. 1 requires a piece of kiln dried spruce or Southern pine 2" x 4" x 4' 2". The bottom piece (H) requires a piece of kiln dried spruce or Southern pine 2" x 4" x 8'. The bottom piece (J) is made of a piece of oak or rock maple 3" x 6" x 6'. Sides F and J are braced by means

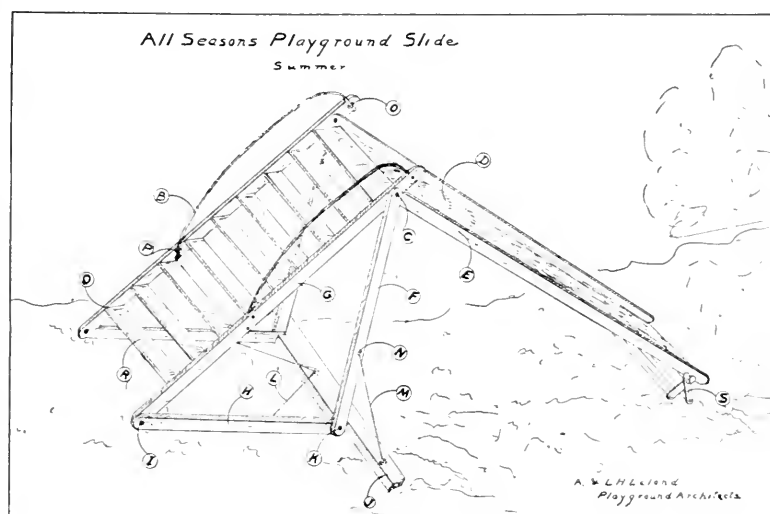


FIG. 1

of $\frac{1}{2}$ " iron rods (M) which are welded into eye bolts, which screw into the respective timbers. Sides H and J are braced in the same manner. Care must be taken to put the eyes into the timbers so that when bolts (C) and bolt (I) are removed, pieces H and F can be made to change places so that the slide will assume the position shown in Fig. 2, which is for winter use. It is necessary to put boards over the top of the steps with cleats on top and with cleats on the bottom, which engage the steps and when 2 or 3 bolts are run through into a piece loosely placed on the under side, the slide is in shape for winter use.

The frame shown in Fig. 1 (S), which holds the slide up from the ground should have pieces connecting the bottoms of the incline pieces which form the sides to keep it from spreading apart.

(These are not shown in the drawing.)

We have never made up one of these but think that it offers good opportunity for some manual training boy to test his ingenuity.

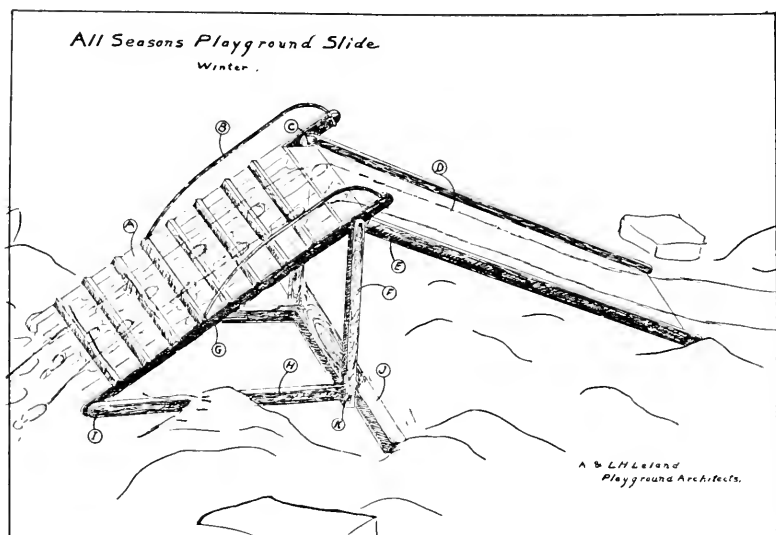
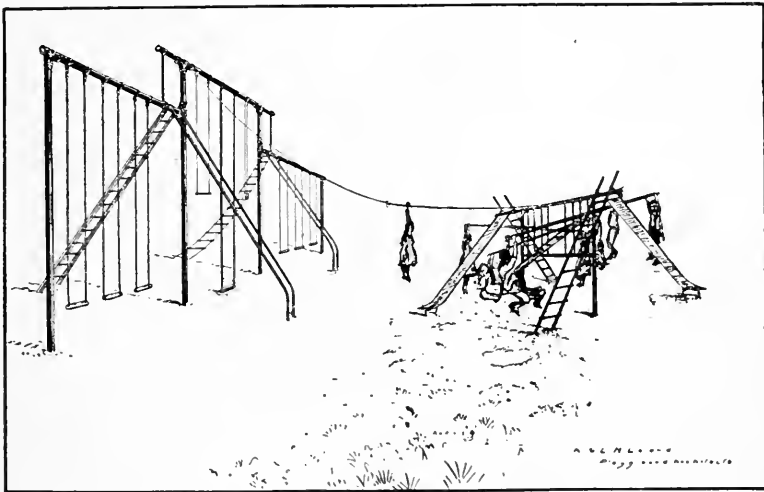


FIG. 2

No. 14

DIRECTIONS FOR MAKING AND ERECTING "SLIDE FOR LIFE"
TWO STYLES

"SLIDE FOR LIFE." This is a piece of apparatus which we designed in Denver and found to be the most valuable of anything on the playground, far exceeding in usefulness a gymnasium frame and equipment costing upwards of \$1,000.00 to install. The "Slide for Life" consists of an incline steel cable about 200' long, having an attachment at one end to the Combination Swing and Gymnasium Frame directly over the Incline Ladder. The other end of the cable is attached to the Combination Teeter Ladder and Slide Frame, with suitable appurtenances for keeping the cable taut. This cable serves as a runway for traveling apparatus, which consists of a ball bearing wheel, having a galvanized malleable iron ring suspended therefrom.

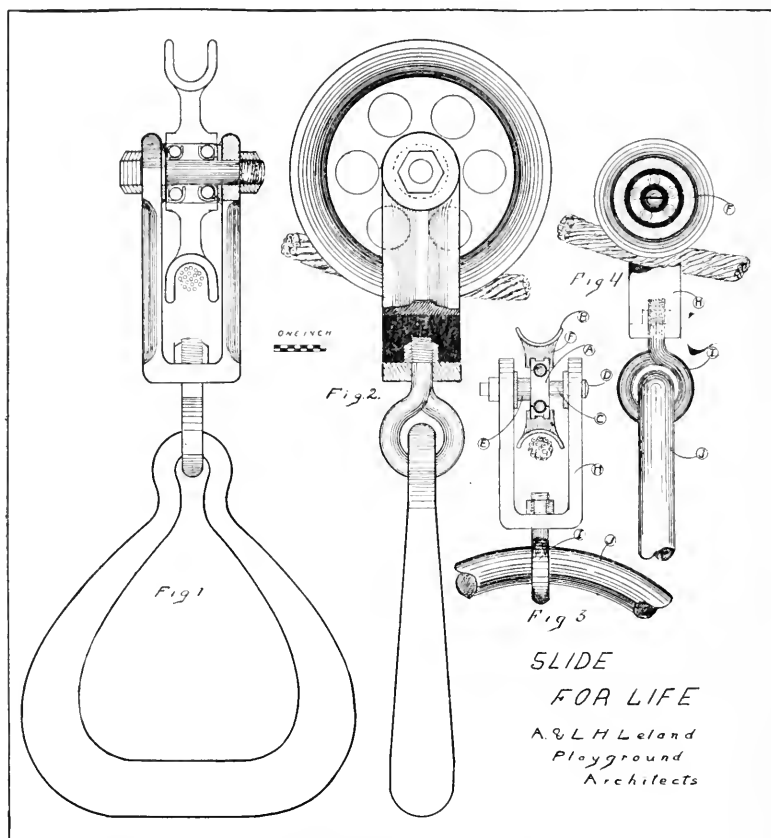


Combination Gymnasium and Swings. Combination Teeter Ladder and Slides
SLIDE FOR LIFE

The children climb the Incline Ladder, take hold of this ring, and "slide for life." This piece of apparatus is very popular.

In Denver, we used this only one hour per day and the children would assemble at the grounds for an hour before the time for the slide to be opened and stand in line waiting for their turn. We used this piece of apparatus

during the latter part of our stay in Denver, I think, for a period of about two months, without a single accident. During the latter part of the run, the cable is so near the ground that the children can drop off at any time without injury to themselves.



SLIDE FOR LIFE—TWO STYLES, FIGURES 1, 2, 3 AND 4

DIRECTIONS FOR MAKING. Figs. 1 and 2 show method of making up the traveling carriage using a ready made ball bearing wheel, and special castings. These parts can all be purchased. Figs. 3 and 4 illustrate method of making a smaller wheel using entirely home-made materials with the exception of the ball bearing, which will cost about 25c, this includes bolt and nut. Get a solid, perfectly round rope eye about $2\frac{1}{4}$ " in diameter for $\frac{3}{4}$ " rope (B). Make a little box about 4" deep and put in moulding sand, which can be obtained from any foundry. Then lay the eye (B) in this sand and set the bearing (A) down in the center of it, so that it will be ex-

actly in the center of the eye; then whittle out a piece of wood to cover up the balls shown in Fig. 4 and after covering the inside of everything with soldering acid pour melted lead in until the bearing and the eye are firmly soldered together. Then take a piece of $\frac{1}{2}$ " x 1" wrought iron or mild steel (H), bore holes for the bolts (D) and (I), and then bend in the shape shown in Fig. 3. Take a piece of round iron $\frac{3}{4}$ " in diameter (J) and bend it into a circle, welding the ends together. The circle should be about 5" or 6" in diameter. Then weld an eye around this ring and bolt up into the inside of and through H. Then insert the bolt (D) with all the attachments which come with it, attach the Slide to the cable and take a ride.

THE CABLE. We have always used $\frac{1}{2}$ " galvanized steel cable such as is used on hay carriers and for smoke stack guys. The upper end of this cable runs over fitting (K) shown in Fig. 1 Combination Swings and Gymnasium (Reprint No. 11). From this point it runs down, after being wound around the pipe two or three times to fitting (I) where it is wound around again and attached to itself by means of several wire rope clips.

The attachment at the other end is shown and described in Reprint No. 13.

No. 15

DIRECTIONS FOR MAKING AND ERECTING THREE STORY PLAYGROUND EQUIPMENT

Space in the air is cheaper than space on the ground. We have designed an equipment, which permits of three sets of children playing above each other without going to the expense of building gigantic glass buildings. Fig. 1 illustrates the method. Six 8' swings and two playground slides occupy the lower story. Above this is a board platform (P) with a guard rail (GR). The children climb up the ladder to the slide, run across the platform, and either ascend the vertical ladder (VL) to the third story, or take a ride on "The Slide for Life" (SFL) as shown in Fig. 2. Another set of larger children can climb up the incline ladder and run across the platform on the third story and slide down the sliding poles. Underneath this platform on the third story, is placed a steel horizontal ladder HL, which is reached from the second story.

This equipment enables about ninety children to exercise on space very little larger than that occupied by an ordinary set of 6 swings.

We have never made one of these, but cannot see why the idea is not entirely practicable.

If any purchaser of this book wishes to make up one of these and test it, we will be glad to take the matter up with them and furnish specifications, etc.

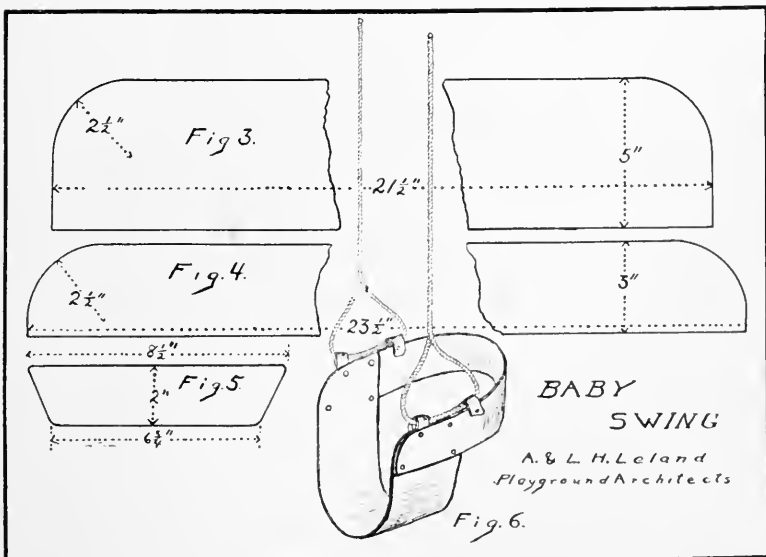
The materials for the construction of this frame would cost between \$100.00 and \$200.00.



SAFE SWINGS FOR THE BABIES

DIRECTIONS FOR MAKING BABY SWING

We designed a soft bottom swing in order to keep the small children away from the swings of the big boys and girls, where they were continually getting their heads cut open.



The materials required for each swing are:—

1 piece first quality oak tanned leather 3" x 23½", which forms the back of the swing. (Fig. 4, Fig. 6.)

1 piece first quality oak tanned leather 5" x 21½", which forms the seat of the swing. (Fig. 3, Fig. 6.)

4 pieces blk. or russet harness leather 2" x 8½", which forms the straps, through which the rope runs. (Fig. 5, Fig. 6.)

2 pieces ½" three strand Manila rope, run through the loops and spliced as shown in Fig. 6. (Directions for splicing are shown under Reprint No. 6.) (Figs. 1, 2 and 3.)

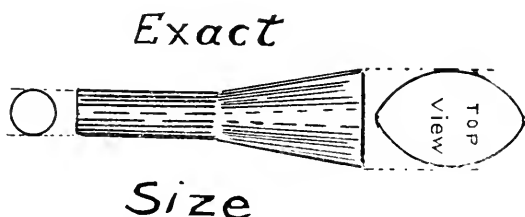


FIGURE 7—PATTERN FOR WEDGE SCREW

Upper ends of rope are run into ½" *rope hooks, which cost about 15c apiece; rope is secured in them by means of wedge screws of the shape and size shown in Fig. 7, which is a pattern to be used in making the wedge screw as per directions under Reprint No. 6. (Figs. 1 and 2.) ¼" x 1½" lag screws are used for making up wedge screw for ½" rope. The leather should be thoroughly waterproofed and cut according to drawings. The bottom and back of the swings are held in place by No. 7 x ½" copper rivets and burrs. The straps are attached to the back and bottom by No. 7 x ⅝" copper rivets and burrs. The straps are attached to the back alone by No. 7 x ½" copper rivets. See Reprint No. 6 for center swings.

This swing has been in use in St. Paul for six years.

DIRECTIONS FOR MAKING INCLINE LADDER OF WOOD

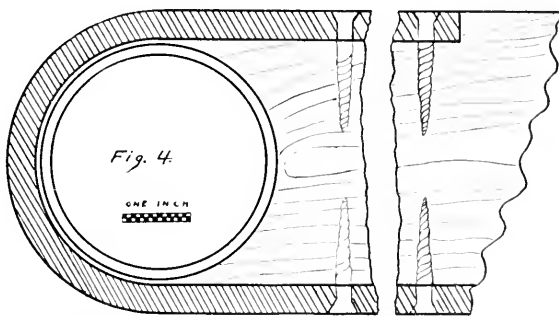
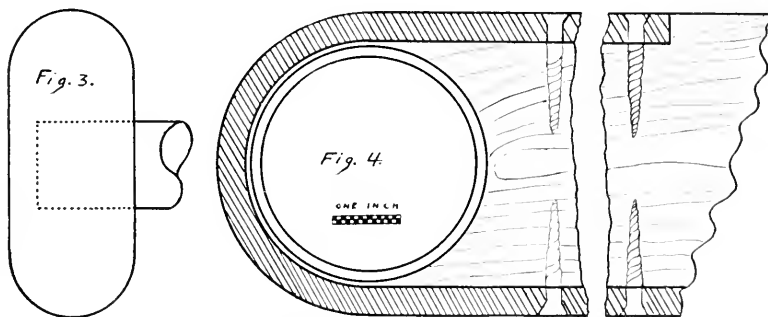
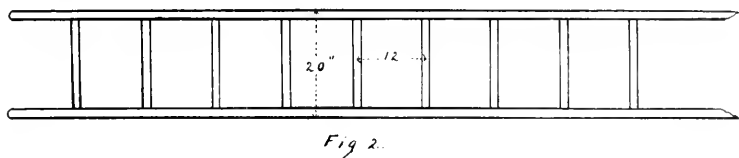
Wooden ladders are very much cheaper than steel and it may sometimes be advisable to use them. Fig. 1 shows side view of the ladder; Fig. 2, general plan; Fig. 3, section of the side and section of the rung; while Fig. 4 shows the method of attachment to the frame.

MATERIALS. Spruce or Southern pine have usually been used for this purpose. It should be kiln dried. The rungs should be made

*Great care is required in using this style of rope hook. Another style which permits the rope to be spliced around it is often used.

of white oak or hickory. Gal. iron pipe is sometimes also used for the rungs.

The sides of the ladder are attached to the frame by means of $\frac{3}{4}$ " iron, which is bent around the pipe and screwed into the sides of the ladders as shown in Fig. 4. Iron extends in from end of ladder 8".



PLAN OF WOOD LADDER

A WORKING BIBLIOGRAPHY*

In the Philosophy and Technique of Play and Playgrounds

CONTENTS PART ONE

Studies in Growth—Play and Its Meaning—The Place of Play in Education—Hygienic and Social Value of Playgrounds—Nature Study—Constructive Play—Horticulture and Landscape Art Applicable to Playground and School Beautification, (Horticultural Methods), (Landscape Gardening and Playground Construction), (Playground Equipment)—Housekeeping and Home Economics, (Nutrition and Diet), (Hygiene of the Home), (Accidents and Sickness)—Hygienic Organizations and Publications Devoting Special Attention to the Subjects of Civics and Health—Farmers' Bulletins, (Landscape Gardening, Forestry and School Gardening), (Housekeeping).

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APPENDIX

THE PROPER RELATION OF ORGANIZED SPORTS ON PUBLIC PLAYGROUNDS AND IN PUBLIC SCHOOLS*

BY MRS. LORNA HIGBEE LELAND

Secretary, Department of Physical Education, N. E. A., Denver Convention, 1909

Sports for public schools and public playgrounds will be influenced by the fundamental principles underlying the work of the two institutions. Each has a specific mission.

•

THE PLAYGROUND STANDS FOR NATURAL EDUCATION, RACIAL EDUCATION, SELF EDUCATION

The playground furnishes practically the only place in the city where the child is not obliged to do things which are foreign or distasteful to its nature. It furnishes the opportunity for the development of the individual along racial and primitive lines, which must serve as a foundation for the finishing touches of civilization. It enforces the authority of tradition as translated by the social consciousness of the children themselves.

Play is nature's short cut to experience; it teaches the lessons which were beneficial to the race in past ages. The consciousness of the normal child at various stages of its growth is the best guide as to the content and the manner of applying these lessons.

The play director is the interpreter of race traditions, and has become necessary by the conditions of civilization, which have prevented the child from observing the activities of adults under favorable conditions and with opportunity for imitation. The group consciousness of children runs the playground. The play instructor secures his influence from the fact that he knows more things which will interest the children than any one of their natural street leaders. Knowing these points of contact, he leads the child from one stage of primitive thought and action to another and higher stage. The child, however, is always the supreme judge of the efficiency of the leadership.

PLAYGROUND ACTIVITIES MUST BE RECREATIVE AND INTERESTING

Playground activities must first of all be interesting; otherwise the child will play on the streets or the vacant lot. A system of educational

*A paper read at Denver Convention of National Education Association, July, 1909.

play for the playground must be prescribed with absolute freedom for the child to choose just what he will play and what he will not play. The children's interest, however, cannot always be trusted implicitly. Our system of play must be submitted for trial; if accepted, we may be assured it has some of the elements required, then its effect upon the children must be observed in order to see if the progression is along ethical, educational and hygienic lines.

Whatever the educational, hygienic and sociological ends which the public playground has to serve, they must be achieved through the recreative application of play.

THE SCHOOL STANDS FOR THE ACQUIRED EDUCATION OF CIVILIZATION

The school stands for the education of the present day civilization, and the adaptation of the child to this civilization. The school system has been developed by adults to meet these requirements as they see them from their standpoint. It represents to them the ideals towards which the race is consciously working.

To the child, it represents external authority, along with the teaching of parents, of the church and society in general. School is the personification of the "eternal musts." It is the place to learn to work at disagreeable duties. School and work have a distinctive value in the education of the child. Everything in life cannot be done in the spirit of play. Groos says,

"Among primitive races, where the life work is for the most part guided by nature, at least in the case of males, boys may get sufficient preparation from play for their later life" "But with civilized people, usage to earnest, persistent effort, that is not dependent upon caprice or impulse, is an indispensable condition for success in the struggle for life, and for this reason school life should promote a high sense of duty as opposed to mere inclination."

Therefore the teacher is essentially a disciplinarian and often a task master personifying work, necessity and duty.

THE SCHOOL MUST MEET THE NEEDS OF THE AVERAGE PUPIL

Since the public school was founded for the purpose of general education, it must meet the needs of the greatest number of pupils. Hence, of necessity, the brightest must be kept back in order not to outstrip the dullards. Necessarily the passing mark is such that every student with proper study can reach it. Such methods raise average intelligence, but tend to limit individual initiative, which is one of the chief concomitants of civilization.

THE DISCIPLINE OF SCHOOLS AND PLAYGROUNDS IS ANTITHETICAL

The difference between school and playground methods is clearly seen in the manner of discipline. At school, if the child does not observe the rules, we keep him in longer as punishment. In the playground, if he does not observe the rules, which are largely of his own making, we put him off the grounds, trusting to be able to make the play so interesting that such discipline will be real punishment.

SCHOOL SPORTS SHOULD DEVELOP ALL THE CHILDREN

The lessons of the playground and the school are both necessary; whatever use either institution makes of play, it seems best that each should follow its own traditions. Therefore, a system of sports for public schools should fulfill the following conditions:—

FIRST. They should be educational, embodying the principles which adults find best for the children to acquire. They should be fully coördinated with the educational plan.

SECOND. They should be adapted to minister to the hygienic, social and educational conditions, which obtain with the majority of the pupils. (The value of exercise as a means of physical development is directly related to hygiene and nutrition. Many of our city children are underfed; they suffer from insufficient sleep, unsanitary conditions of living; and should they engage in vigorous exercise, not having the necessary food or conditions for creating the required energy, the effect would be distinctly harmful and unhygienic. The stimulus of intense competition might lead the ambitious, nervous child to greatly exceed the safe limitations of his strength.)

THIRD. They should be compulsory, in order that every child may receive the benefits, otherwise the timid child will not participate. They should be a regular part of school work; and the standards should be within the reach of the average child. Specialization and the formation of permanent teams, therefore, is inadvisable.

FOURTH. They must be adapted to such material conditions of equipment and space as obtain in our schools without extensive immediate changes.

LASTLY. While conforming to all these conditions, they must not lose their identity as sports.

COMPETITION IN SCHOOL SPORTS SHOULD BE SUFFICIENT ONLY TO HOLD THE INTEREST OF THE CHILDREN

The games and sports of the school should be in a measure preparatory to the freer competitive sports of the playground. The fundamentals of the games should be part of the systematic physical education of the schools. Informal intra-school contests should be sufficient to hold interest. The organization of clubs within the school is apparently the best method. In St. Paul, I organized three athletic clubs in one of the schools. Each club had a team in each of the branches of sport, basketball, baseball, hockey, etc. The total results of the series of games, in which teams of the different clubs played each other was made the basis of competition. Perhaps a better method would be to have all the games as class work, choosing sides each time. Active participation by every pupil and equal development of all players should be the ideal of school sports.

THE PLAYGROUND SHOULD DEVELOP LEADERS

The development of leaders, however, is a most important part of education. Competition is the best method for developing individual efficiency. The traditions of the playground are such that it furnishes unequalled opportunities for the development of leadership. Leaders can only be developed in an atmosphere of liberty.

The church, the school and the home, since they are enforcing external rules are obliged to temper their judgment with mildness accordingly. They shield the child from the consequences of his own misdoings. Mater-

nalism develops one side of life; when overdone, it creates dependence. Critics of the present school system claim that things are made too easy for the pupils, that knowledge is fed out to them in homeopathic sugar coated doses, and that school life unfits them for the hurly burly of life.

There is no question but that the playground training is necessary. It represents real life standards. In order "to make the team," it is necessary to "deliver the goods." If little Johnnie "muffs a pop up," his peers sit in judgment and the jury of *equals* do not listen to the plea that "he did his best." The verdict is "go play with the kids!" "Give him the sack off the team!" There is no 65% passing mark on the playground.

One of the hardest tasks the adult has, is to understand and influence childhood. Through the natural street leaders of the children, who can be influenced through the sports of the playground, the great body of the children can be reached.

INTER-SCHOOL COMPETITION CAN BE CARRIED ON BEST THROUGH THE CO-OPERATION OF THE PUBLIC PLAYGROUNDS

Competition between schools can best be carried on with the coöperation of the public playgrounds, under the joint control of that organization, of the public schools, of the private and parochial schools. These playground school sports should furnish the opportunity for the development of the individual through competition, which the limitations of the school prohibit. The organized sports of the school should furnish training for the playground sports, and only those who measure up to certain standards both physical and mental should be allowed to enter the inter-school games. For example, suppose thirty-two pupils pass in playground ball and in their studies. These pupils would be the playground ball squad to represent their school in competition. First, second and third teams would be chosen, who would compete with the first, second and third teams of another playground. The total playground ball score would be the combined scores of all the teams.

Other sports should be conducted in a similar manner. Those schools located near a playground would use it as a place for playing off district games. The championship meet should be a great occasion, possibly a Fourth of July Festival participated in by the whole city. The prizes should be inexpensive, such as ribbons and banners and should go to the team, school and playground rather than to individuals.

PHYSICAL TRAINING AND MANUAL TRAINING SHOULD BE CORRELATED THROUGH CONSTRUCTIVE PLAY

The child's instinct for play should not be satisfied with ready made toys. Children should work for their play, to derive educational benefit. The official "bats, balls" and other equipment used for school and playground games should be "child made;" the champions those who make the best goods and play the best game. *Playground and school sports can*

direct the dynamic stream of play into the channels of "playcraft," where its force can become accustomed to industrial uses. If money is spent on materials and instructors to teach the children to make their own play supplies, some temptations would be removed from politicians and others who are not in business for their health.

Such correlation through play of physical and educational forces would be of mutual uplift and would remedy many of the evils toward which uncorrelated athletics inevitably lead.

THE DANGERS OF COMPETITION

Competition unless carefully regulated tends to specialization. Specialization creates conditions favorable for commercialism. Commercialism is at the bottom of corruption in athletics.

When a sport becomes so interesting that the public prefers to sit on the benches and watch rather than to play, it ceases to be a sport and becomes an art, consequently it can have little influence as a means of general physical education. Sports in England are developed by the amateur and for the amateur. Consequently every one plays; fathers play with their sons. Sports in America are developed by the professional for the professional, for the purpose of making money, consequently if any one keeps up with the rapid specialization of the games, it is almost impossible to have any other business in life.

When the innocent little game of town ball was taken and developed as a spectacular art, great harm was done to the sport of our country. College, High School and Athletic Club sports are professional in methods and ideals, because they are intended mainly to interest the spectator and not for the benefit of the player.

The American trait of specialization is partly responsible for this and it has been helped along wonderfully by commercial interests, which have taken advantage of American opportunities in a characteristic American way. Professional athletics, if they have a place, should not set the standards for amateur athletics, nor for the sports of schools and playgrounds. The playing rules for professionals and amateurs should be upon an entirely different basis. The educators of our country can absolutely change the tendency of our national games by concerted action. The remedy lies with the rules and with the rules committee, which determine whether the game shall tend towards specialization or not.

Rules committees have generally been made up of professional coaches and others, who judging from results have been interested largely in the money side of the game. Naturally such rules committees have emphasized the possibilities of the games as money makers.

Nominal clean sport campaigns may be all right among professionals, but for amateurs, reform should strike at the roots of evil by modifying the conditions which cause corruption, rather than by treating symptoms with the antidotes of registration of teams, who must use "official balls,"

etc., the proceeds from the sale of which pays the expense of white-washing.

Children, who have not been subjected to corrupting influences, naturally love fair play. They play the game for the game's sake. Most unsportsmanlike tricks are learned from coaches and others.

EDUCATORS SHOULD PREPARE AND PUBLISH MODIFIED RULES TO DEVELOP
CHILDREN'S SPORTS WITH AMATEUR IDEALS

The control of rules committees, modifications and publication of rules, governing the sports of schools and playgrounds should be in the hands of educators, physical educators, hygienists and others, who are not dependent upon commercial interests in securing and holding their positions. Such a rules committee should modify our traditional games to adopt them to city, school and playground conditions and should publish these modified rules and keep control of the situation rather than permit the publication and control to be taken up by the same interests which have done so much to specialize American games.

When the children's games of our country follow in the commercial and professional footsteps of the games for adults, as now played, then amateur sport in America will indeed be dead.

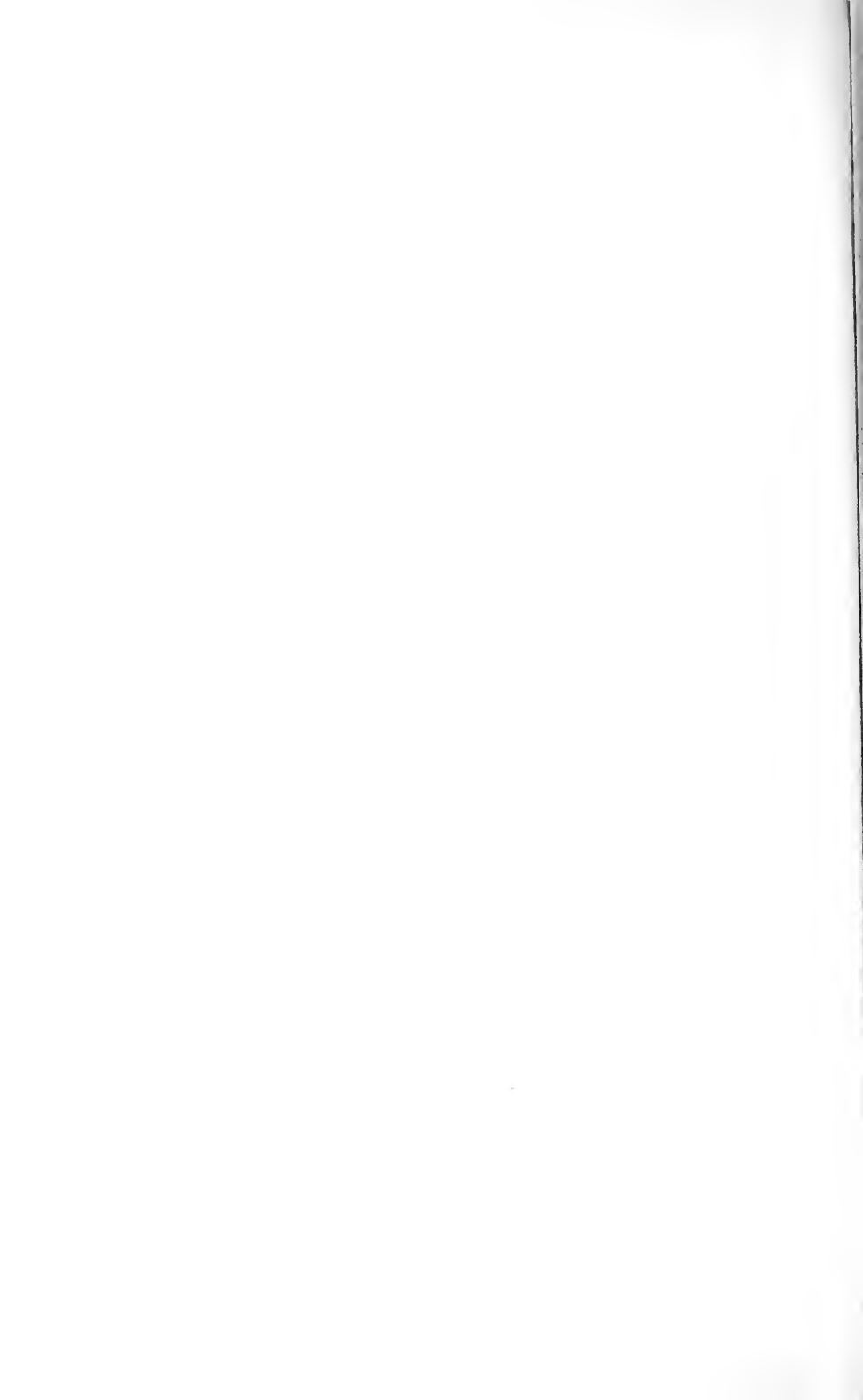
INDEX

	PAGE		PAGE
Acknowledgments	5, 6	Chest bars	235
Advisory Committee	103	Chicago; playgrounds	67
Esthetic theory of play	27	recreation parks	70-77
Apparatus; Los Angeles	156, 157	Childhood; meaning of	19
some inexpensive	195, 196	Franklin's, training	164
specifications of homemade	201-259	Children, secure votes	99
what to have	194-198	Christmas	129
Appointment of South Park Board	70	Circus day	129
Appendix	275	City boy	34
Architecture, playground, Part II	58-77	Clay, kinds of	86
Arlington Hills Playground	106	Climbing; pole	241 242
Armour Square, plan of	77	tree	196
Arnold, Dr. E. H.	195	Club; boys'	129
Athletic; and social play	160	girls'	127
Athletics; for girls, need of	35	house, 127; specification	149
and manual training correlated	170	neighborhood	113
Atkinson, A. S.	179	rooms, Chicago	76
Auditorium, South Park	76	Como Avenue Playground	93-96
Baby swing	256-258	Comprehensive plan	56-57
Back stop, baseball	112	Concrete; specifications of	137-150
Back yard equipment	230-234	213, 216	
Balancing tree	196	Contract; form of	208 210
Baseball; diamond, construction	84	for supervisor	108
game, benefit	96	Construction; Playground, Part III	82-170
leagues, school	100, 101	Apparatus, Chapter XXVI	201-259
Basketball; court, surface	85	Constructive Play	
girls	128	Philosophy of, Part II	159-166
goals	201-202	Technique of, Part V	167-190
Beauty and utility	70	place of	160
Bibliography; of camps	180	team play	160
gardening	181	in education	162
playgrounds	260	activities by ages	170
Biological; theory of life	19	Creation of new species	187
theory of play	26	Curtis, Dr. Henry S.	70-77
Boys'; club	129	Dancing, surface for	86
gymnasium	65	De Groot, E. B.	23
playground	112	Delinquency, public playground and	38
Boone Park	60	relation of playground to	43
Breckenridge, Madeline McDowell	78	Denver, North, Playground	89-90
Buildings, Chicago	73-77	Description, South Parks	70-77
Los Angeles, specifications	135-157	Development, playground landscape gar-	
St. Paul	91-97	dening and architecture	58-69
Burns, Allen T.	42	of ideal playground	109-114
Burke, Hon. James F.	51	Dickinson, John, Playground	66
Canandaigua, N. Y.	69	Diamond, Baseball	84, 87
Camps; bibliography	180	Domestic science	173
family	178	Domestication of animals	190
raft	179	Drainage	82
playground;	176-177	Eastman, Dr. Chas. A.	29-33
Central Park, Louisville	63-66	Educational; Method of Building Play-	
Celebrations, Los Angeles	129-133	grounds; Part VI	191-259
Charter, amendment, St. Paul	96-99	value of play	20

	PAGE		PAGE
Education, Franklin	164-165	Hardin Square	72
Energy, surplus, theory	26	Hardy, Walter E.	117, 118
Equipment; advantage of home made	193-194	Hastings, Dr. W. W.	50
common sense in	194-195	Health, good	51
inexpensive apparatus	195-196	Hedges	111, 120, 181-185
what to have	196-197	Hemp rope	198
philosophy of	194-198	Hillock, The	196
Excursions	176	Home Gardening Association	185-188
Experimentation	187	Home Made Equipment	192-259
Family camps	178	advantages of	192-194
Fence; posts, artistic	120	giant stride	194, 222
and hedges	120-122	merry-go-round	90
Fencing; reasons for	120	Home Made Tent	177
kinds of	121	Horizontal; bar	204-205
specifications of	121	ladder	235-236
Field house, Chicago	76	Housekeeping and cooking	173
Los Angeles	123	Hygiene, playgrounds a factor in	46
Louisville	64	play	174
Fighting street railway	105	Hygienic; value of swimming pools	50
First; wading pool	61	notes	50
work, construction	82	Importance of comprehensive plan	56-57
Flipping board	243-246	Improvements projected	90
Flying Dutchman	208-210	Incline ladder	237
Fourth of July Festival; St. Paul	101	Indian; boy's training	29-33
Los Angeles	131	contribution of North American to	28
Franklin, Benjamin	164	playground	28
Frames, material for	198	Individual, place of constructive play in	160
backyard	230	development of	160
swing	211, 216	Indoor gymnasium for men	75
teeter	227	Industrial work, recommended	168
Frame braces; plan of	207	Inexpensive playground apparatus	195
swings	212, 214	Instinct and tradition	19
Frame fittings, kinds of	198	Intelligence developed through play	160
Frictionless joints	198	Johnson, Dr. Geo. E.	46
Games, surface for	86	Jump standards	203
Gardens, school	181-185	Jumping; pit	195, 235
Gardening, play course in	181-189	stairs	196
Home—Association	185-188	Kellogg, Dr. J. H.	50
Gates, specifications of	121	Kinds of Fencing	121
General remarks, construction	113	Labor, unskilled and recreation	24
Giant stride; construction	222-225	Ladders; steel horizontal	235-236
home made	222	steel inclined	237-238
surface under	85	steel and wire cable	241
Girls; need of athletics	35	wood	259
club	127	Landscape gardening; development of	58-69
Goals, basketball	201	methods of	111, 115-119
Good Health and Good Government	51	need of	54-55
Grades; and drainage	82-84	play course in	181-189
ideal	109	St. Paul	94
Grand jury, and playgrounds	43	Leland, Arthur	19-25, 54-57, 89-108, 160-166
Groos	22, 23, 26	Leland, Harry W.	162, 170
Gymnasium; combination	239-242	Leland, Lorna Higbee	54-57, 91-115, 275
construction	192-259	library	75, 127
Echo Park	157	Life; biological theory of	19
equipment	107	playground and	23
indoor, for men	75	Lindsey, Judge Ben. B.	38-43
outdoor, for men	72		
surface under	85		
vacation school	157		

	PAGE		PAGE
Los Angeles playgrounds and buildings	123-156	Playground— <i>Continued</i>	
home made apparatus	156-158	and public hygiene	46-52
Louisville, Central Park	62	and social reform	34, 35
first wading pool	61	and school hygiene	46-50
model playground	61	rural districts	44-45
recreation park	59	Recreation; center	133, 135-149
supervised system	63	park, Louisville	59-61
Maintenance, South Parks	76	parks of Chicago	70-77
Manual training, playground	168-172	theory of play	26
and athletics	170	and unskilled labor	24
Materials, for construction	84-87	why provide at public expense	25
for apparatus	198-199	Reforestation, a plan of	188
Meaning of play	19	Rochester	69
Methods of construction	82-88	Rope	198
Merry-go-Round construction	243-246	Running track	84
Need of athletics for girls	35	Scudder, Myron T.	44-45
Need of beautifying playgrounds	54-55	School; athletic league	105
Need of playgrounds in country	44-45	Domestic Science	175
New York, playgrounds	66	gardens	181-185
North American Indian	28	hygiene and playgrounds	46-52
North Denver Playground	89-90	and Playground	23
Nurses' headquarters	127	play	165
Opening day	96	wading pool	117
of field house	131	St. Paul Playgrounds, evolution of	91-108
Organized sports on public playgrounds		Sandbox	206-207
and in public schools	275	Securing land	191
Outdoor, gymnasium, genesis of	58	See-saws; construction	227-230
for men	72	surface under	85
Los Angeles	156	Self-government	104
Parallel bars	205	Shade	118
Pedagogical, standpoint	27	Shower baths	104
value of play	26	Shrubs	116
Pets	190	Slide for life; adjustment	248
Politics	103	cable	253
Philadelphia, home made supplies	192	construction	251-252
John Dickinson Playground	66	value of	197, 251
Plan of reforestation	188	Sliding poles	238
Plans, see list	10-12	Slides, all seasons	248-250
Play; philosophy of, Part I	17-25	backyard	232-234
constructive activities	170	Slope, retaining a	84
constructive and other contrasted	160-166	Small children's playground	72, 113
hygiene	174	Sociological value of play	27
meaning of	19	Sources of St. Paul's success	102
school	165	Specifications; apparatus	156-157
theories of	26-27	materials for	198-200
value of two types	160	construction and erection of	201-259
Playcraft League	170	brick meter box	83
Playground; architecture	58-69	buildings, Los Angeles,	133-156
beautiful	54-57	St. Paul	94
Canandaigua	69	construction methods	82-88
construction	81-159	fence	120-122
Chicago	70-77	Special features, Los Angeles	131
down in the Blue Grass	78-79	Sport field	58
grand jury and	43	Sports, playground and school	275
and juvenile delinquency	38-43	State law, Minnesota	108
night	103	Stecher, Wm. A.	192
place of	22-25	Story hour	127
		Street railway	105
		Superintendent of Parks	105
		Supervised playgrounds	63
		Supervision	76, 93

	PAGE		PAGE
Surfaces, playing	84-87	Track meet	131
Swimming pools	50	Trapeze	241
construction	87	Trick rings	242
outdoor	73		
Swings; Construction	198, 217-221	Universal clamp fittings	214
Los Angeles	156	Unskilled labor and recreation	24
origin of	195	Utility and beauty	70
Teeters, construction	227-230	Votes, children secure	99
Teeeter ladders, attachments	247-248		
construction	243	Wading pool	61
Los Angeles	158	school yard	117
Tennis courts; artistic	87	Walks	109
construction	86	Water; system	83
Tent, home made	177	use of	116
Three story playground	254-255	Work; and play	22
Theories of play	26-27	first	82
Toys, children should make	162	industrial	168
Tracks; and walks	109		
construction	84		



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